

UNITED STATES DISTRICT COURT
DISTRICT OF SOUTH CAROLINA
CHARLESTON DIVISION

CHAD MARSH

Plaintiff,

v.

3M COMPANY (F/K/A MINNESOTA
MINING AND MANUFACTURING
COMPANY);
AGC CHEMICALS AMERICAS, INC.;
ALLSTAR FIRE EQUIPMENT;
AMEREX CORPORATION;
ARCHROMA U.S. INC.;
ARKEMA, INC.;
BUCKEYE FIRE EQUIPMENT;
CARRIER GLOBAL CORPORATION;
CB GARMENT, INC.;
CHEMDESIGN PRODUCTS, INC.;
CHEMGUARD, INC.;
CHEMICALS, INC.;
CLARIANT CORPORATION;
CORTEVA, INC.;
DAIKIN AMERICA, INC.;
DEEPWATER CHEMICALS, INC.;
DU PONT DE NEMOURS, INC.;
DYNAX CORPORATION;
EIDP, INC.;
FIRE SERVICE PLUS, INC.;
FIRE-DEX, LLC;
FIRE-DEX, INC.;
GLOBE HOLDING COMPANY, LLC.;
GLOBE MANUFACTURING COMPANY,
LLC;
HONEYWELL INTERNATIONAL, INC.;
HONEYWELL SAFETY PRODUCTS USA,
INC.;
INNOTEK CORP.;
JOHNSON CONTROLS, INC.;
KIDDE P.L.C., INC.;
LAKELAND INDUSTRIES, INC.;
L.N. CURTIS & SONS;
LION GROUP, INC.;

MDL No. 2:18-mn-2873-RMG

CIVIL ACTION NO: _____

COMPLAINT

(Jury Trial Demanded)

LION APPAREL, INC.;
MALLORY SAFETY AND SUPPLY, LLC;
MILLIKEN & COMPANY;
MINE SAFETY APPLIANCES COMPANY
LLC;
MSA SAFETY SALES, LLC.;
MSA SAFETY INCORPORATED;
MUNICIPAL EMERGENCY SERVICES,
INC.;
NARCOTE, L.L.C.;
NARCOTE HOLDING CORP.;
NATION FORD CHEMICAL COMPANY;
NATIONAL FOAM, INC.;
PBI PERFORMANCE PRODUCTS, INC.;
PERIMETER SOLUTIONS, LP;
RICOCHET MANUFACTURING CO., INC.;
SAFETY COMPONENTS FABRIC
TECHNOLOGIES INC.;
SOUTHERN MILLS, INC.;
SOUTHERN MILLS, INC. D/B/A TEN CATE
PROTECTIVE FABRICS USA;
THE CHEMOURS COMPANY;
THE CHEMOURS COMPANY FC, LLC.;
TYCO FIRE PRODUCTS, L.P.;
UNITED TECHNOLOGIES CORPORATION;
UTC FIRE & SECURITY AMERICAS
CORPORATION, INC.;
VERIDIAN LIMITED D/B/A VERIDIAN FIRE
PROTECTIVE GEAR;
W. L. GORE & ASSOCIATES, INC.; and
WITMER PUBLIC SAFETY GROUP, INC.

Defendants.

COMPLAINT

Plaintiff, Chad Marsh, by and through the undersigned counsel, brings this Complaint against Defendants, and hereby states as follows:

1. Plaintiff is 53 years old.

2. Plaintiff is a firefighter who has served in the state of Kentucky. The Fire Department responds to thousands of calls per year and provides fire protection, emergency medical care, and other critical public safety services to residents in its jurisdiction.

3. Plaintiff brings this action for monetary damages and appropriate equitable and injunctive relief for harm resulting from exposure to per- and polyfluoroalkyl substances (“PFAS”) that were manufactured, designed, sold, supplied, distributed and/or contained in products manufactured, designed, sold, supplied and/or distributed by each of the Defendants, individually or through their predecessors or subsidiaries.

4. PFAS are human-made chemicals consisting of a chain of carbon and fluorine atoms used in manufactured products to, *inter alia*, resist and repel oil, stains, heat, and water. PFAS include “long-chain” PFAS made up of seven or more carbon atoms (“long-chain PFAS”) as well as “short-chain” PFAS made up of six or fewer carbon atoms (“short-chain PFAS”).

5. PFAS are known as “forever chemicals,” and per the Stockholm Convention on Persistent Organic Pollutants, to which the U.S. is a signatory, are defined as: Persistent – because they do not break down through organic processes or in the environment; Transboundary – as they migrate through surface and ground water, as well as in the atmosphere and through wildlife; and Bio-accumulative – as they concentrate within our bodies and are passed to the fetus within the womb and through breast milk. Exposure to PFAS in humans can occur through inhalation, ingestion, and dermal contact.¹

6. PFAS have been associated with multiple and serious adverse health effects in humans including cancer, tumors, liver damage, immune system and endocrine disorders, high

¹ Suzanne E. Fenton, MS, PhD, PFAS Collection, Environmental Health Perspectives (February 22, 2019), <https://ehp.niehs.nih.gov/curated-collections/PFAS> (last accessed May 15, 2023).

cholesterol, thyroid disease, ulcerative colitis, birth defects, decreased fertility, and pregnancy-induced hypertension. PFAS have also been found to concentrate in human blood, bones, and organs and, more recently, to reduce the effectiveness of vaccines, a significant concern in light of COVID-19.

7. Firefighter occupational cancer is the leading cause of line-of-duty deaths in the fire service.

8. Unbeknownst to Plaintiff, Defendants have manufactured, marketed, distributed, sold, and/or used PFAS and PFAS-containing materials in protective clothing specifically designed for firefighters (“bunker gear”) and/or in Class B firefighting foams.

9. For decades, Defendants were aware of the toxic nature of PFAS and the harmful impact these substances have on human health. Yet, Defendants manufactured, designed, marketed, sold, supplied, and/or distributed PFAS and PFAS chemical feedstock, as well PFAS-containing bunker gear, to firefighting training facilities and fire departments nationally, including the Fire Departments in Kentucky. Defendants did so, moreover, without ever informing firefighters or the public that their bunker gear contained PFAS, and without warning firefighters or the public of the substantial and serious health injuries that can result from exposure to PFAS or PFAS-containing materials in bunker gear and Class B firefighting foams. Even worse, Defendants concealed the hazardous toxicity, persistence and bioaccumulation of PFAS, and repeatedly misrepresented the safety of PFAS and/or PFAS-containing materials.

10. Plaintiff wore bunker gear in the normal course of performing his firefighting duties and was thereby repeatedly exposed to PFAS in his workplace. Plaintiff was also exposed to PFAS via Class B firefighting foam used in the ordinary course of his employment. Plaintiff did not know

and, in the exercise of reasonable diligence, could not have known that these products contained PFAS or PFAS-containing materials. He also did not know that PFAS was in his body and blood.

11. At all relevant times and continuing to the present, Defendants have represented that their bunker gear and Class B foams are safe.

12. Plaintiff did not learn of his PFAS exposure until January 2023, when he was alerted to the information about PFAS exposure in AFFF and his turnout gear by the International Association of Fire Fighters (“IAFF”).

13. Plaintiff wore and/or used the bunker gear as was intended and in a foreseeable manner which exposed him to PFAS in the normal course of his firefighting activities. This repeated and extensive exposure to PFAS resulted in cancers and other serious and life-threatening diseases to Plaintiff. Plaintiff’s PFAS exposures continue to pose a significant threat to his personal health due to PFAS’ persistence, pervasiveness, toxicity, and bioaccumulation.

14. Defendants knowingly and willfully manufactured, designed, marketed, sold, and distributed chemicals and/or products containing PFAS for use within Kentucky when they knew or reasonably should have known that Plaintiff would repeatedly inhale, ingest, and/or have dermal contact with these harmful compounds during firefighting training exercises and in normal firefighting operations, and that such exposure would threaten the health and welfare of firefighters exposed to these dangerous and hazardous chemicals.

15. Plaintiff brings this action against Defendants and seeks damages, together with any appropriate injunctive or other equitable relief.

PARTIES

16. Plaintiff, Chad Marsh, is a 53-year-old firefighter living in Kentucky.

17. At all times relevant, Plaintiff Chad Marsh has lived and worked in Kentucky.

18. Defendant 3M Company (a/k/a Minnesota Mining and Manufacturing Company) (“3M”) is a Delaware corporation that does business throughout the United States, including within Kentucky. 3M has its principal place of business in St. Paul, Minnesota. 3M developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

19. Defendant AGC Chemicals Americas, Inc. (“AGC”) is a Delaware corporation that does business throughout the United States, including within Kentucky. AGC has its principal place of business in Exton, Pennsylvania. AGC developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

20. Defendant AllStar Fire Equipment (“AllStar”) is a California corporation that does business throughout the United States, including within Kentucky. AllStar has its principal place of business in Arcadia, California. AllStar developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

21. Defendant Amerex Corporation, also known as Alabama Amerex Corporation, (“Amerex”) is an Alabama corporation that does business throughout the United States, including within Kentucky. Amerex has its principal place of business in Trussville, Alabama. Amerex developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

22. Defendant Archroma U.S., Inc. (“Archroma”) is a North Carolina corporation that does business throughout the United States, including within Kentucky. Archroma has its principal

place of business in Charlotte, North Carolina. Archroma developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

23. Defendant Arkema, Inc. (“Arkema”) is a Pennsylvania corporation that does business throughout the United States, including within Kentucky. Arkema has its principal place of business in King of Prussia, Pennsylvania. Arkema developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

24. Defendant Buckeye Fire Equipment (“Buckeye”) is a North Carolina corporation that does business throughout the United States, including within Kentucky. Buckeye has its principal place of business in Kings Mountain, North Carolina. Buckeye developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

25. Defendant Carrier Global Corporation (“Carrier”) is a Delaware corporation that does business throughout the United States, including within Kentucky. Carrier has its principal place of business in Palm Beach Gardens, Florida. Carrier is the parent of Defendant Kidde-Fenwal, Inc. Carrier developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

26. Defendant ChemDesign Products, Inc. (“ChemDesign”) is a Delaware corporation and does business throughout the United States, including within Kentucky. ChemDesign has its principal place of business in Marinette, Wisconsin. ChemDesign developed, manufactured,

marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

27. Defendant Chemguard, Inc. (“Chemguard”) is a Delaware corporation that does business throughout the United States, including within Kentucky. Chemguard has its principal place of business in Marinette, Wisconsin. Chemguard developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

28. Defendant Chemicals, Inc. (“Chemicals”) is a Texas corporation and does business throughout the United States, including within Kentucky. Chemicals has its principal place of business in Baytown, Texas. Chemicals developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

29. Defendant Clariant Corporation (“Clariant”) is a New York corporation that does business throughout the United States, including within Kentucky. Clariant has its principal place of business in Charlotte, North Carolina. Clariant developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

30. Defendant Corteva, Inc. (“Corteva”) is Delaware corporation that does business throughout the United States, including within Kentucky. Corteva has its principal place of business in Indianapolis, Indiana. Corteva developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

31. Defendant CB Garment, Inc. (d/b/a “CrewBoss”) is an Oregon corporation that does business throughout the United States, including within Kentucky. CrewBoss has its principal place of business in Eugene, Oregon. CrewBoss developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

32. Defendant Daikin America, Inc. (“Daikin America”) is a Delaware corporation that does business throughout the United States, including within Kentucky. Daikin America has its principal place of business in Orangeburg, Oklahoma. Daikin America developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

33. Defendant Deepwater Chemicals, Inc. (“Deepwater”) is a Delaware corporation that does business throughout the United States, including within Kentucky. Deepwater has its principal place of business in Woodward, Oklahoma. Deepwater developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

34. Defendant Dynax Corporation (“Dynax”) is a Delaware corporation that does business throughout the United States, including within Kentucky. Dynax has its principal place of business in Elmsford, New York. Dynax developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

35. Defendant EIDP, Inc. (f/k/a E. I. du Pont de Nemours & Co.) is a Delaware corporation that does business throughout the United States, including within Kentucky. DuPont has its principal place of business in Wilmington, Delaware. Dupont developed, manufactured,

marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

36. Defendant Du Pont de Nemours, Inc. (“DuPont Nemours”) is a Delaware corporation that does business throughout the United States, including within Kentucky. DuPont Nemours has its principal place of business in Wilmington, Delaware. DuPont Nemours developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

37. Defendant Fire-Dex, Inc. (“Fire-Dex Ohio”) is an Ohio corporation that does business throughout the United States, including within Kentucky. Fire-Dex Ohio has its principal place of business in Cleveland, Ohio. Fire-Dex developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear, including in Kentucky.

38. Defendant Fire-Dex, LLC (“Fire-Dex Delaware”) is a Delaware limited liability company that does business throughout the United States, including within Kentucky. Fire-Dex has its principal place of business in Medina, Ohio. Fire-Dex developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear, including in Kentucky. Fire-Dex Ohio and Fire-Dex Delaware are collectively referred to as “Fire-Dex.”

39. Defendant Fire Service Plus, Inc. (“Fire Service Plus”) is a Georgia corporation that does business throughout the United States, including within Kentucky. Fire Service Plus has its principal place of business in Simi Valley, California. Fire Service Plus developed, manufactured,

marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

40. Defendant Witmer Public Safety Group, Inc. (d/b/a “The Fire Store”) is a Pennsylvania corporation that does business throughout the United States, including within Kentucky. The Fire Store has its principal place of business in Coatesville, Pennsylvania. The Fire Store developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

41. Defendant Globe Holding Company, LLC (“Globe Holding”) is a New Hampshire limited liability company that does business throughout the United States, including within Kentucky. Globe has its principal place of business in Pittsfield, New Hampshire. Globe developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

42. Defendant Mine Safety Appliances Company (“MSA”) acquired Globe Holding Company, LLC and its subsidiaries (collectively, “MSA/Globe”) in 2017 and continues to do business under the Globe name.

43. Defendant Globe Manufacturing Company, LLC (“Globe Manufacturing”) is a New Hampshire limited liability company that does business throughout the United States, including within Kentucky. Globe has its principal place of business in Pittsfield, New Hampshire. Globe developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in

Kentucky. Defendant MSA acquired Globe Holding Company, LLC and its subsidiaries (collectively, “MSA/Globe”) in 2017 and continues to do business under the Globe name.

44. Defendant Honeywell International, Inc. (“Honeywell International”) is a Delaware corporation that does business throughout the United States, including within Kentucky. Honeywell has its principal place of business in Charlotte, North Carolina. Honeywell International developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

45. Defendant Honeywell Safety Products USA, Inc. (“Honeywell Safety Products”) is a Delaware corporation that does business throughout the United States, including within Kentucky. Honeywell has its principal place of business in Charlotte, North Carolina. Honeywell developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky. Throughout this Complaint, “Honeywell” refers to both Honeywell International and Honeywell Safety Products.

46. Defendant Innotex is a Delaware corporation that does business throughout the United States, including within Kentucky. Innotex has its principal place of business in Ohatchee, Alabama. Innotex developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

47. Defendant Johnson Controls, Inc. (“Johnson Controls”) is a Delaware corporation that does business throughout the United States, including within Kentucky. Johnson Controls has its principal place of business in Milwaukee, Wisconsin. Johnson Controls is the parent of

Defendants Tyco Fire Products, LP and Chemguard, Inc. Johnson Controls developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

48. Defendant Kidde P.L.C., Inc. (“Kidde P.L.C.”) is a Delaware corporation that does business throughout the United States, including within Kentucky. Kidde P.L.C. has its principal place of business in Farmington, Connecticut. Upon information and belief, Kidde PLC was formerly known as Williams Holdings, Inc. and/or Williams US, Inc. Kidde P.L.C. developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

49. Defendant Lakeland Industries, Inc., (“Lakeland”) is a Delaware corporation that does business throughout the United States, including within Kentucky. Lakeland has its principal place of business in Huntsville, Alabama. Lakeland developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

50. Defendant Lion Apparel, Inc., (“Lion Apparel”) is an Ohio corporation that does business throughout the United States, including within Kentucky. Lion Apparel has its principal place of business in Dayton, Ohio. Lion Apparel developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky

51. Defendant Lion Group, Inc., (“Lion Group”) is an Ohio corporation that does business throughout the United States, including within Kentucky. Lion has its principal place of business in Dayton, Ohio. Lion developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B

foams, including in Kentucky. Throughout this Complaint, “Lion” refers to both Lion Group and Lion Apparel.

52. Defendant L.N. Curtis & Sons (“LN Curtis”) is a California corporation that does business throughout the United States, including within Kentucky. LN Curtis has its principal place of business is Walnut Creek, California. LN Curtis developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

53. Defendant Mallory Safety and Supply, LLC (“Mallory”) is a California corporation that does business throughout the United States, including within Kentucky. Mallory has its principal place of business in Longview, Washington. Mallory developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

54. Defendant Municipal Emergency Services, Inc. (“MES”) is a Delaware corporation that does business throughout the United States, including within Kentucky. MES has its principal place of business in Sandy Hook, Connecticut. MES developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

55. Defendant Milliken & Company (“Milliken”) is a Delaware corporation that does business throughout the United States, including within Kentucky. Milliken has its principal place of business in Spartanburg, South Carolina. Milliken developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

56. Defendant MSA Safety Incorporated is a Pennsylvania corporation that does business throughout the United States, including within Kentucky. MSA Safety has its principal place of business in Cranberry Township, Pennsylvania. MSA Safety Incorporated developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky. MSA Safety Incorporated is the parent company of Mine Safety Appliances Company, LLC, MSA Safety Appliances Company, LLC, (“MSA”), MSA Safety Development, LLC, and MSA Safety Jacksonville, LLC.

57. Defendant Mine Safety Appliances Company, LLC, (“MSA”) is a Pennsylvania limited liability company that does business throughout the United States, including within Kentucky. MSA has its principal place of business in Cranberry Township, Pennsylvania. In 2017, MSA acquired Defendant Globe Holding Company, LLC and its subsidiaries, including Defendant Globe Manufacturing Company, LLC (collectively, “MSA/Globe”) and continues to do business under the Globe name. MSA developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

58. Defendant MSA Safety Development, LLC, (“MSA Safety Development”) is a Pennsylvania limited liability company that does business throughout the United States, including Kentucky. MSA Safety Development has its principal place of business in Cranberry Township, Pennsylvania. MSA Safety Development developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

59. Defendant MSA Safety Jacksonville, LLC, (“MSA Safety Jacksonville”) is a Pennsylvania limited liability company that does business throughout the United States, including within Kentucky. MSA Safety Jacksonville has its principal place of business in Cranberry Township, Pennsylvania. MSA Safety Jacksonville developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

60. Defendant MSA Safety Sales, LLC, (“MSA Safety Sales”) is a Pennsylvania limited liability company that does business throughout the United States, including within Kentucky. MSA Safety Sales has its principal place of business in Cranberry Township, Pennsylvania. MSA Safety Sales developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

61. Defendant Narcote LLC, (f/k/a Stedfast, Inc. and/or Stedfast USA, Inc.) (“Narcote LLC”) is a Delaware limited liability company that does business throughout the United States, including within Kentucky. Narcote has its principal place of business in Piney Flats, Tennessee. Narcote developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

62. Defendant Narcote Holding Corp., (f/k/a Stedfast, Inc. and/or Stedfast USA, Inc.) (“Narcote Holding”) is a Delaware corporation that does business throughout the United States, including within Kentucky. Narcote has its principal place of business in Piney Flats, Tennessee. Narcote developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including

Kentucky. Throughout this Complaint, “Narcote” refers to both Narcote LLC and Narcote Holding.

63. Defendant National Foam, Inc., (“National Foam”) is a Pennsylvania corporation that does business throughout the United States, including within Kentucky. National Foam has its principal place of business in West Chester, Pennsylvania. National Foam developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

64. Defendant Nation Ford Chemical Company (“Nation Ford”) is a South Carolina company and does business throughout the United States, including within Kentucky. Nation Ford has its principal place of business in Fort Mill, South Carolina. Nation Ford developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

65. Defendant PBI Performance Products, Inc., (“PBI”) is a Delaware corporation that does business throughout the United States, including within Kentucky. PBI has its principal place of business in Charlotte, North Carolina. PBI developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

66. Defendant Perimeter Solutions, LP, (“Perimeter Solutions”) is a Delaware limited partnership that does business throughout the United States, including within Kentucky. Perimeter Solutions has a principal place of business in Rancho Cucamonga, California. Perimeter Solutions developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

67. Defendant Ricochet Manufacturing Co., Inc. (“Ricochet”) is a Pennsylvania corporation that does business throughout the United States, including within Kentucky. Ricochet has its principal place of business in Philadelphia, Pennsylvania. Ricochet developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

68. Defendant Safety Components Fabric Technologies, Inc. (“SCI”) is a Delaware corporation that does business throughout the United States, including within Kentucky. SCI has a principal place of business in Greenville, South Carolina. SCI developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

69. Defendant Southern Mills, Inc. (“Southern Mills”) is a Georgia corporation and does business throughout the United States, including within Kentucky. Southern Mills has its principal place of business in Union City, Georgia. Southern Mills developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

70. Defendant Southern Mills, Inc. d/b/a Ten Cate Protective Fabrics USA (“Tencate”) is a Georgia corporation that does business throughout the United States, including within Kentucky. Tencate has its principal place of business in Senoia, Georgia. Tencate developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

71. Defendant The Chemours Company (f/k/a The Chemours Company, LLC) (“Chemours”) is a Delaware corporation that does business throughout the United States, including within Kentucky. Chemours has its principal place of business in Wilmington, Delaware.

Chemours developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

72. The Chemours Company FC, LLC, (“Chemours FC”) is a Delaware limited liability company that does business throughout the United States, including within Kentucky. Chemours has its principal place of business in Wilmington, Delaware. Chemours FC developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

73. Defendant Tyco Fire Products, L.P. (“Tyco”) is a Delaware limited partnership that does business throughout the United States, including within Kentucky. Tyco has its principal place of business in Exeter, New Hampshire. Tyco developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

74. Defendant W. L. Gore & Associates, Inc., (“Gore”) is a Delaware corporation that does business throughout the United States, including within Kentucky. Gore has its principal place of business in Newark, Delaware. Gore developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

75. Defendant Veridian Limited d/b/a Veridian Fire Protective Gear (“Veridian”) is an Iowa corporation that does business throughout the United States, including within Kentucky. Veridian has its principal place of business in Spencer, Iowa. Veridian developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

76. Defendant United Technologies Corporation (“United Technologies”) is a Delaware corporation that does business throughout the United States, including within Kentucky. United Technologies has its principal place of business in Farmington, Connecticut. United Technologies developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

77. Defendant UTC Fire & Security Americas Corporation, Inc. (f/k/a GE Interlogix, Inc.) (“UTC”) is a North Carolina corporation that does business throughout the United States, including within Kentucky. UTC has its principal place of business in Lincolnton, North Carolina. Upon information and belief, Kidde-Fenwal, Inc. is part of the UTC Climate Control & Security unit of United Technologies. UTC developed, manufactured, marketed, distributed, released, sold, and/or used PFAS, PFAS materials, and products containing PFAS in bunker gear and/or Class B foams, including in Kentucky.

78. Plaintiff alleges that each named Defendant is in some manner responsible for the acts alleged herein and that they proximately caused the injuries to Plaintiff, as alleged herein. Plaintiff alleges that each named Defendant derived substantial revenue from the PFAS, PFAS materials, and products containing PFAS in bunker gear that Defendants designed, developed, manufactured, tested, packaged, promoted, marketed, advertised, distributed, labeled and/or sold within Kentucky, and that were used by Plaintiff herein within Kentucky.

79. Defendants expected or should have expected their acts to have consequences within the State of Kentucky and derived substantial revenue from interstate commerce.

80. Defendants purposefully availed themselves of the privilege of conducting activities within the State of Kentucky, thus invoking the benefits and protections of its laws.

81. Plaintiff alleges that each named Defendant is in some manner responsible for the acts alleged herein and that they proximately caused the injuries to Plaintiff, as alleged herein.

JURISDICTION AND VENUE

82. At all times relevant, Defendant 3M has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant 3M's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

83. At all times relevant, Defendant AGC has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant AGC's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

84. At all times relevant, Defendant Amerex has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of

Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Amerex's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

85. At all times relevant, Defendant Archroma has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Archroma's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

86. At all times relevant, Defendant Arkema has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Arkema's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of

Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

87. At all times relevant, Defendant Buckeye has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Buckeye's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to State of Kentucky, and specific personal jurisdiction is proper under one or more of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

88. At all times relevant, Defendant Carrier has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Carrier's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to State of Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

89. At all times relevant, Defendant ChemDesign has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products

to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant ChemDesign's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

90. At all times relevant, Defendant Chemguard has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Chemguard's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

91. At all times relevant, Defendant Chemicals has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Chemicals' contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one

or more of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

92. At all times relevant, Defendant Corteva has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Corteva's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

93. At all times relevant, Defendant CrewBoss has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant CrewBoss' contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

94. At all times relevant, Defendant Daikin America has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its

products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Daikin America's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

95. At all times relevant, Defendant Deepwater has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Deepwater's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

96. At all times relevant, Defendant Dynax has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Dynax's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more of Kentucky

law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

97. At all times relevant, Defendant EIDP has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant EIDP's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

98. At all times relevant, Defendant DuPont Nemours has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant DuPont Nemours' contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

99. At all times relevant, Defendant Fire-Dex Delaware has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused

its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Fire-Dex Delaware's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

100. At all times relevant, Defendant Fire-Dex Ohio has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Fire-Dex Ohio's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

101. At all times relevant, Defendant Fire Service Plus has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Fire Service Plus' contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one

or more of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

102. At all times relevant, Defendant The Fire Store has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant The Fire Store's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

103. At all times relevant, Defendant Globe Manufacturing has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Globe's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

104. At all times relevant, Defendant Globe Holding has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its

products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Globe's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

105. At all times relevant, Defendant Honeywell International has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Honeywell International's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

106. At all times relevant, Defendant Honeywell Safety Products has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Honeywell International's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process

Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America

107. At all times relevant, Defendant Innotex has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Innotex's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

108. At all times relevant, Defendant Johnson Controls has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Johnson Controls' contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

109. At all times relevant, Defendant Kidde P.L.C. has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products

to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Kidde P.L.C.'s contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

110. At all times relevant, Defendant Lakeland has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Lakeland's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

111. At all times relevant, Defendant Lion Apparel has purposefully availed itself of the privilege of conducting business in the State of Kentucky has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Lion Apparel's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one

or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

112. At all times relevant, Defendant Lion Group has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Lion Group's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

113. At all times relevant, Defendant LN Curtis has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant LN Curtis's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

114. At all times relevant, Defendant Mallory has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products

to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Mallory's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

115. At all times relevant, Defendant Milliken has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Milliken's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

116. At all times relevant, Defendant MSA Safety Incorporated has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant MSA Safety Incorporated's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction

is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

117. At all times relevant, Defendant MSA/Globe has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant MSA/Globe's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

118. At all times relevant, Defendant MSA Safety Development has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant MSA Safety Development's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

119. At all times relevant, Defendant MSA Safety Jacksonville has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in

the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant MSA Safety Jacksonville's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

120. At all times relevant, Defendant MSA Safety Sales has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant MSA Safety Sales' contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

121. At all times relevant, Defendant MES has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant MES's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of

Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

122. At all times relevant, Defendant Narcote LLC has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Narcote's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

123. At all times relevant, Defendant Narcote Holding has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Narcote Holding's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

124. At all times relevant, Defendant National Foam has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its

products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant National Foam's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

125. At all times relevant, Defendant Nation Ford has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Nation Ford's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

126. At all times relevant, Defendant PBI has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant PBI's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of

Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

127. At all times relevant, Defendant Perimeter Solutions has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Perimeter Solutions' contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

128. At all times relevant, Defendant Ricochet has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Ricochet's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

129. At all times relevant, Defendant SCI has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State of Kentucky, regularly caused its

products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant SCI's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

130. At all times relevant, Defendant Southern Mills has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Southern Mills' contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

131. At all times relevant, Defendant Tencate has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Tencate's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of

Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

132. At all times relevant, Defendant Chemours has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Chemours' contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

133. At all times relevant, Defendant Chemours FC has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Chemours FC's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America

134. At all times relevant, Defendant Tyco has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold

in the State of Kentucky, and this action arises out and/or relates to Defendant Tyco's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

135. At all times relevant, Defendant Gore has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Gore's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

136. At all times relevant, Defendant United Technologies has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant United Technologies' contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction

is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

137. At all times relevant, Defendant UTC has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant UTC's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

138. At all times relevant, Defendant Veridian has purposefully availed itself of the privilege of conducting business in the State of Kentucky, has transacted business in the State of Kentucky, contracted to distribute and supply its products in the State, regularly caused its products to be sold in the State of Kentucky, and this action arises out and/or relates to Defendant Veridian's contacts with Kentucky, including its having of business transacted in, as well as a tortious actions and/or omissions committed in whole or in part within Kentucky, and which resulted in injuries to Plaintiff in Kentucky, and specific personal jurisdiction is proper under one or more provisions of Kentucky law, as well as the Due Process Clauses of the Fifth and Fourteenth Amendments to the Constitution of the United States of America.

139. This Court has jurisdiction over this action under 28 U.S.C. § 1332(a) and 1332(c)(1) in that there is complete diversity among the parties and the amount in controversy exceeds \$75,000 exclusive of interest and costs.

140. Venue is proper in this District Court pursuant to this Court's Case Management Order ("CMO") No. 3. Plaintiff states that but for the Order permitting direct filing in the United States District Court for the District of South Carolina, Plaintiff would have filed this Complaint in the United States District Court for the Western District of Kentucky. Further, in accordance with CMO 3, Plaintiff designates the United States District Court for the Western District of Kentucky as the home venue. Venue is originally proper in that District Court pursuant to 28 U.S.C. §1391 because it is the judicial district in which Plaintiff was a resident and/or citizen, a substantial part of the events or omissions giving rise to the claims occurred, and Defendants conduct business within the district.

FACTUAL ALLEGATIONS

A. Plaintiff's Use of and Exposure to PFAS-Containing Products

141. Plaintiff was a firefighter who served in the state of Kentucky and worked in various fire stations, engines, trucks, and specialized companies.

142. As a first responder to fire, medical, and other emergency calls, Plaintiff risked his life daily. He not only saved lives and homes, but he also provided emergency services and medical care, performed rescues, and offered support to people in traumatic circumstances. To prepare for this enormously challenging work, Plaintiff wore bunker gear and received extensive and ongoing training in fire suppression (including the preparation, handling, and use of Class B foam), fire prevention, rescue, and emergency medical care techniques to protect and/or minimize the loss of life, property, and damage to the environment.

143. The states Fire Departments respond to thousands of calls per year. The Fire Departments provides fire protection, emergency medical care, and other critical public safety services to residents in its jurisdiction.

144. For decades, Defendants, either individually or through their predecessors or subsidiaries, have manufactured, designed, sold, supplied, and distributed chemical feedstock and/or bunker gear and Class B foam containing PFAS to firefighting training facilities and fire departments globally, including within the State of Kentucky.

145. With over 5,000 individual chemicals, PFAS is a large and ever-growing category of human-made chemicals, consisting of a nearly indestructible chain of carbon and fluorine atoms that are widely used in products to, *inter alia*, resist and repel oil, heat and water, and have been found to have negative health effects. As detailed below, these toxic chemicals are present in firefighter bunker gear and Class B foam.

B. PFAS Chemicals

146. PFAS chemicals are used in bunker gear to impart heat, water, and stain resistance to the outer shell and moisture barrier of bunker gear.

147. PFAS are a family of synthetic chemicals containing fluorine and carbon atoms.

148. PFAS were first invented in the 1930s.

149. PFAS have strong surfactant properties, meaning they reduce the surface tension between a liquid and another liquid or solid, and are thus effective for products which require fire resistance, and oil, stain, grease, and water repellency.

150. The two most widely known and studied PFAS are PFOA and PFOS.

151. PFOA, a perfluoralkyl carboxylate, is an environmentally persistent anthropogenic chemical that is produced synthetically.

152. PFOS, a perfluoralkyl sulfonate, is an environmentally persistent anthropogenic chemical that is also produced synthetically.

153. PTFE, when heated, can produce PFOA and other PFAS compounds which are hazardous to human health.²

154. The chemical structure of PFOA and PFOS, and other PFAS, makes them mobile and extremely resistant to breakdown in the environment and in human tissue.

155. PFAS are known as “forever chemicals” because they are immune to degradation, bio-accumulate in individual organisms and humans, and increase in concentration up the food chain.³

156. Indeed, scientists are unable to estimate an environmental half-life (i.e. the time it takes for 50% of the chemical to disappear) for PFAS.⁴

157. Additionally, some PFAS chemicals (known as “precursors”) degrade into different long-chain PFAS chemicals.⁵

158. PFAS are nearly indestructible and are highly transportable.⁶

² See e.g., Ellis DA, Mabury SA, Martin JW, Muir DC. *Thermolysis of fluoropolymers as a potential source of halogenated organic acids in the environment*. Nature. 2001 Jul 19; 412(6844):321-4. doi:10.1038/35085548. PMID: 11460160; Ellis DA, Martin JW, Muir DC, Mabury SA. *The use of 19F NMR and mass spectrometry for the elucidation of novel fluorinated acids and atmospheric fluoroacid precursors evolved in the thermolysis of fluoropolymers*. Analyst. 2003 Jun;128(6):756-64. doi: 10.1039/b212658c. PMID: 12866900.

³ *Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)*, National Institute of Environmental Health Sciences, <https://www.niehs.nih.gov/health/topics/agents/pfc/index.cfm> (last visited May 15, 2023).

⁴ *Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)*, National Institute of Environmental Health Sciences, https://www.niehs.nih.gov/health/materials/perfluoroalkyl_and_polyfluoroalkyl_substances_508.pdf (last visited May 15, 2023).

⁵ Robert Bilott, *Exposure*, at 174; Monica Amarelo, *Study: Almost All Fluorine Detected in Fire Stations’ Dust Is From Unknown “Forever Chemicals,”* Environmental Working Group (February 5, 2021), <https://www.ewg.org/news-insights/news-release/study-almost-all-fluorine-detected-fire-stations-dust-unknown-forever> (last visited May 15, 2023).

⁶ *Toxicological Profile for Perfluoroalkyls*, see Relevance to Public Health, Agency for Toxic Substances & Disease Registry, <https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf>, (last visited May 15, 2023).

159. PFAS chemicals include “older” long-chain PFAS like PFOA, PFOS, and PFNA that have seven or more carbon atoms, and “newer” short-chain PFAS, like PFBA, PFBS, PFHxA, and PFHxS.

160. The PFAS chemical industry has repeatedly asserted that short-chain PFAS are safer and bio-degrade more easily than long-chain PFAS. However, short-chain PFAS are molecularly similar to long-chain PFAS, and recent scientific research shows that short-chain PFAS are in fact extremely persistent, highly mobile and transportable, almost impossible to remove from water, bio-accumulate in humans and the environment, and show similar toxicity as long-chain PFAS.⁷

161. Short-chain PFAS also have lower technical performance and may therefore be used at higher quantities cancelling out any supposed benefits of lower bioaccumulation potential.⁸

162. In October 2021, the U.S. Environmental Protection Agency (“EPA”) updated its 2018 assessment of short-chain PFAS, also known as “GenX,” finding that two of Defendant

⁷ Cheryl Hogue, *Short-chain and long-chain PFAS show similar toxicity, US National Toxicology Program says*, Chem. And Eng’g News, (August 24, 2019), <https://cen.acs.org/environment/persistent-%20pollutants/Short-chain-long-chain-PFAS/97/i33> (last accessed May 15, 2023); David Andrews, *FDA Studies: ‘Short-Chain’ PFAS Chemicals More Toxic Than Previously Thought*, Environmental Working Group (March 9, 2020), <https://tinyurl.com/y3lbq7by> (last visited May 15, 2023); Stephan Brendel et al., *Short-chain Perfluoroalkyl Acids: Environmental Concerns and A Regulatory Strategy Under REACH*, Env’t Sci. Eur., Vol. 30, 1 (2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5834591/> (last visited May 15, 2023); Tom Neltner, *The Elephant in the Room: Potential Biopersistence of Short-Chain PFAS*, Environmental Defense Fund, (February 20, 2019), <http://blogs.edf.org/health/2019/02/20/potential-biopersistence-short-chain-pfas/> (last visited May 15, 2023).

⁸ Martin Scheringer et al., *Helsingør Statement on Poly- and Perfluorinated Alkyl Substances (PFASs)*, Chemosphere (June 14, 2014), <https://www.sciencedirect.com/science/article/pii/S004565351400678X> (last visited May 15, 2023).

Chemours GenX chemicals are **more toxic** than PFOA - the highly toxic chemical they were intended to replace.⁹

163. PFAS exposure to humans can occur through inhalation, ingestion, or dermal contact.¹⁰

164. To date, there is no safe, acceptable or “normal” level of PFAS in the human body. Further, the fact that PFOA, PFOS, PFHxS, PFHpA, and PFNA are often found together presents a substantial risk to human health. Defendants’ assertions that their products are safe because they do not contain PFOA or PFOS, or because they contain short-chain PFAS is just another example of their efforts to deflect from the reality that there are thousands of PFAS – including precursor PFAS which degrade into PFOA and PFOS.¹¹

165. PFAS exposure affects nearly every system in the human body.¹² It has been associated with multiple and serious adverse health effects in humans including, but not limited to, cancer, tumors, liver damage, immune system and endocrine disorders, thyroid disease, ulcerative colitis, birth defects, decreased fertility, pregnancy-induced hypertension, accelerated

⁹ Cheryl Hogue, *US EPA Deems Two GenX PFAS Chemicals More Toxic than PFOA*, Chemical & Engineering News (October 28, 2021), <https://cen.acs.org/environment/persistentpollutants/US-EPA-deems-two-GenX-PFAS-chemicals-more-toxic-than-PFOA/99/i40> (last visited May 15, 2023).

¹⁰ *Id.* at 3-4; Katura Persellin, *Study: PFAS Exposure Through Skin Causes Harm Similar to Ingestion*, Environmental Working Group (January 13, 2020), <https://www.ewg.org/news-insights/news/study-pfas-exposure-through-skin-causes-harm-similar-ingestion> (last visited May 15, 2023).

¹¹ Technical Fact Sheet - Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA), U.S. Env’t Prot. Agency, (Nov. 2017), https://19january2021snapshot.epa.gov/sites/static/files/2017-12/documents/ffrrofactsheets_contaminants_pfos_pfoa_11-20-17_508_0.pdf (last visited May 15, 2023).

¹² Kelly Lenox, *PFAS Senate Hearing, Birnbaum’s Expert Scientific Testimony*, Environmental Factor, National Institute of Environmental Health Sciences (May 2019), <https://factor.niehs.nih.gov/2019/5/feature/1-feature-pfas> (last visited May 15, 2023).

changes in gene expression, and increases in oxidative stress which can contribute to DNA changes, tumor promotion, and other health conditions.¹³ It has also been found to concentrate in human blood, bones and organs, and to reduce the effectiveness of certain vaccines, a significant concern in light of COVID-19.¹⁴

C. Firefighter's Bunker Gear

166. Plaintiff, as a first responder to fires, hazardous materials incidents, and other emergency and medical calls, risked his life daily. He not only saved lives and homes, but he also provided emergency services and medical care, performed rescues, and offered support to people in traumatic circumstances. To prepare him for this enormously challenging work, Plaintiff wore bunker gear and received extensive and ongoing training in fire suppression.

167. During their training, and when responding to fires, firefighters wear bunker gear intended to provide a degree of thermal, chemical, and biological protection.

168. Bunker gear includes items such as helmets, hoods, jackets, pants and suspenders, boots, and gloves. Each component of the jacket and pants are made of an outer layer, as well as

¹³ A. Koskela et al., *Perfluoroalkyl substances in human bone: concentrations in bones and effects on bone cell differentiation*, Scientific Reports, (July 28, 2017), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5533791/> (last visited May 15, 2023); *National Toxicology Program Technical Report on the Toxicology and Carcinogenesis Studies of Perfluorooctanoic Acid Administered in Feed to Sprague Dawley (Hsd: Sprague Dawley SD) Rats*, National Toxicology Program, (May 2020), https://ntp.niehs.nih.gov/ntp/htdocs/lt_rpts/tr598_508.pdf (last visited May 15, 2023); Jaclyn Goodrich et al., *Per- and Polyfluoroalkyl Substances, Epigenetic Age and DNA Methylation: A Cross-Sectional Study of Firefighters*, Epigenomics (October 2021), <https://pubmed.ncbi.nlm.nih.gov/34670402/> (last visited May 15, 2023).

¹⁴ *Id.* (Koskela study); Tasha Stolber, *PFAS Chemicals Harm the Immune System, Decrease Response to Vaccines, New EWG Review Finds*, Environmental Working Group (November 12, 2020), <https://www.ewg.org/news-insights/news/pfas-chemicals-harm-immune-system-decrease-response-vaccines-new-ewg-review-0> (last visited May 15, 2023).

several inner layers that include a moisture barrier and thermal liner which are meant to protect the firefighter from ambient heat.¹⁵

169. Upon information and belief, bunker gear and its moisture barriers contain PFAS compounds, PFAS, including PFAS which degrade into PFOA.¹⁶

170. A June 2020 study of bunker gear by researchers at the University of Notre Dame analyzed 30 new and used bunker gear jackets and pants originally marketed, distributed, and sold in 2008, 2014, and 2017, by six bunker gear makers, including Defendants MSA/Globe and Lion, and found high levels of PFAS in bunker gear worn, used, or handled by firefighters.¹⁷

171. This study, which looked at used and unused bunker gear to assess the probability of PFAS migrating from the moisture barrier layer to other parts of the gear, found that concentrations of PFASs in the thermal liner were different in used versus unused bunker gear, suggesting that PFAs migrated from the moisture barrier to the thermal liner, which contacts firefighters' skin.¹⁸

172. In a more recent study done at Oregon State University by Derek Muensterman, extractable volatile PFAS were found at exceedingly high concentrations in firefighter bunker gear as compared to earlier investigations of non-volatile PFAS like PFOA and PFOS. The highest level

¹⁵ *What Materials Go Into Making Turnout Gear?*, Globe MSA Safety Website, <https://globe.msasafety.com/selecting-your-gear/materials> (last visited May 15, 2023).

¹⁶ Technical Fact Sheet - Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA), United States Environmental Protection Agency, (Nov. 2017), https://19january2021snapshot.epa.gov/sites/static/files/2017-12/documents/ffrrofactsheet_contaminants_pfos_pfoa_11-20-17_508_0.pdf (last visited May 15, 2023).

¹⁷ Graham Peaslee et al., *Another Pathway for Firefighter Exposure to Per- and Polyfluoroalkyl Substances: Firefighter Textiles*, Environmental Science & Technology Letters 2020, 7, 8, 594-599 (Ecotoxicology and Public Health) (June 23, 2020) (hereinafter, "the Notre Dame Turnout Study").

¹⁸ *Id.*

of these volatile PFAS were determined to originate from the PTFE moisture barrier. Bioavailability of volatile PFAS is considered high, as the inhalation route is of concern, especially given the application of the products which are worn by the firefighters on their bodies for extended durations.

173. When exposed to heat, PFAS chemicals in the bunker gear off-gas, break down, and degrade into highly mobile and toxic particles and dust,¹⁹ exposing firefighters to PFAS chemicals, particles and dust, including through skin contact/absorption, ingestion (e.g., hand-to-mouth contact), and/or inhalation.²⁰ Further firefighter exposure to these highly mobile and toxic materials occurs through normal workplace activities, because particles or dust from their bunker gear spread to fire vehicles and fire stations, as well as firefighters' personal vehicles and homes.²¹

174. Such workplace exposure to PFAS or PFAS-containing materials has been found to be toxic to humans. For example, in an internal memo dated July 31, 1980, DuPont officials described measures that were needed to prevent workplace exposure to PFOA, which they knew could permeate all protective materials, and noted that PFOA's toxicity varied depending on the exposure pathway, acknowledging that ingestion was "slightly toxic," dermal contact was "slightly to moderately toxic" and inhalation was "highly toxic."²² The memo concluded "continued exposure is not tolerable."²³

¹⁹ A. S. Young et al., *Per- and Polyfluoroalkyl Substances (PFAS) and Total Fluorine in Fire Station Dust*, *J. Expo. Sci. Environ. Epidemiology* (2021), <https://doi.org/10.1038/s41370-021-00288-7> (last visited May 15, 2023).

²⁰ *Id.*

²¹ *Id.*

²² Robert Bilott, *Exposure* (2019), 174.

²³ *Id.* at 175.

175. As alleged herein, Plaintiff wore bunker gear in the ordinary course of performing his duties, and the bunker gear was intended to be used and in a foreseeable manner, which exposed him to significant levels of PFAS.

D. PFAS-Containing Class B Foam

176. Class B foam is one of the primary tools used by firefighters for suppression of fires, include those involving oil and/or chemicals commonly found at the scene of transportation accidents, aircraft accidents, and chemical spills. Class B foam is also used in structural or other types of non-chemical fires when water cannot penetrate deeply enough to ensure that unseen fire is extinguished. The most common Class B foam is aqueous film-forming foam (“AFFF”). AFFF and other Class B foams contain PFAS.

177. To use Class B foam, a Class B foam concentrate must first be mixed with water. Class B foam concentrate is typically sold in five-gallon containers that firefighters are responsible for storing on the fire engine and/or pouring into the foam bladder of the fire engine. To mix the foam concentrate and water from a fire engine that is not pre-plumbed for foam, an educator must be placed in the foam concentrate to draw up the concentrate and mix it with water to create a thick, foamy substance. Firefighters are responsible for this process of preparing the foam, applying the foam, and cleaning the equipment (hoses, nozzles, etc.) after use.

178. The process of preparing and applying Class B foam, applying the foam, and then cleaning the equipment after foam use causes exposure to PFAS through skin contact, inhalation, or ingestion (e.g., hand-to-mouth contact). The Class B foam containers used by Plaintiff and their fire departments to mix and prepare the Class B foam for use did not say that the foam contains PFAS and did not warn Plaintiff of the serious health risks associated with exposure to PFAS.

179. Class B foam is used in fire extinguishment in a manner typical of routine methods of fire extinguishment—by being sprayed through a fire hose, appliance, or nozzle.

180. The techniques used for “laying a blanket” of Class B foam in fire extinguishment include banking the foam off a wall or vertical surface to agitate the foam before it covers the fire; or applying it to the ground surface where the fire is burning. In structure fires, it can also be necessary to spray the ceilings, walls, and floors. Reapplication of foam is often necessary because the foam blanket will break down over a short time.

181. These techniques are used routinely in firefighting training as well as in real-world fire extinguishment, and result in firefighters being sprayed or entirely soaked with Class B foam, walking in and through Class B foam (which can reach thigh- or even waist-high), or kneeling in Class B foam during use. As a result, the techniques cause exposure to PFAS through skin contact, inhalation, or ingestion (e.g., hand-to-mouth contact).

182. As alleged herein, Plaintiff used and/or was exposed to Class B foam in the ordinary course of performing his duties as it was intended to be used and in a foreseeable manner which exposed him to significant levels of PFAS.

183. Plaintiff did not know, and in the exercise of reasonable diligence could not have known, that the Class B foam he used and/or was exposed to in the course of performing his duties contained PFAS or PFAS-containing materials, and similarly did not know and could not have known that he routinely suffered exposure to PFAS or PFAS-containing materials in the Class B foam he used and/or was exposed to in performing his duties.

184. These exposures to PFAS or PFAS-containing materials resulted in serious and life-threatening diseases to Plaintiff and continue to pose a significant health threat to him given the bioaccumulation, pervasiveness, and persistence of PFAS.

E. Defendants Knowingly Manufactured, Developed, Marketed, Distributed, Supplied and/or Sold Toxic PFAS and/or Products Containing PFAS

185. Defendants have each marketed, developed, distributed, sold, promoted, manufactured, released, or otherwise used PFAS chemicals in products, including in PFAS-containing bunker gear and Class B foam, throughout the United States and in Kentucky.

186. PFAS were first developed in the 1930s and 1940s. Soon after, 3M began manufacturing a PFAS material called perfluorooctanoic acid (“PFOA”), selling it to other companies, including DuPont.

187. By the 1950s, PFAS were widely used in large-scale manufacturing. Prior to this, PFAS had never been detected in nor were present in human blood or bodies.

188. In the 1960s, Class B foam containing PFAS entered the global market and became the primary firefighting foam all over the world with 3M as one of the largest manufacturers.

189. In the 1970s, Defendants National Foam and Tyco began to manufacture, market, and sell Class B foam containing PFAS, followed by Defendant Chemguard in the 1990s, and Defendant Buckeye in the 2000s.

190. Founded in 1918, Defendant MSA/Globe began manufacturing, marketing, and selling bunker gear with DuPont’s NOMEX® PFAS-containing flame resistant fabric in 1966. MSA/Globe (under the Globe name) continues to manufacture, market, and sell bunker gear using PFAS-containing fabrics supplied by its partners, DuPont, Gore, Tencate, and PBI.²⁴

191. Defendant Lion began to manufacture, market, and sell bunker gear in 1970. Since its founding, and continuing through to the present, Lion makes, markets, and sells bunker gear

²⁴ See *Globe History*, Globe MSA Safety Website, <https://us.msasafety.com/about-globe/history> (last visited May 15, 2023); *Turnout Gear Materials*, Globe MSA Safety Website, <https://globe.msasafety.com/materials> (last visited May 15, 2023).

using PFAS-containing fabrics, including Teflon®F-PPE-treated thermal lining material supplied by Defendants DuPont's NOMEX® PFAS-containing flame/water/oil-resistant fabric, and moisture barrier fabrics supplied by Defendant Gore.²⁵

192. Defendant Honeywell acquired Norcross Safety Products LLC in 2008, entering the protective gear industry and becoming one of the leading manufacturers of bunker gear. Honeywell makes, markets, and sells bunker gear using PFAS-containing fabrics, supplied by Defendants DuPont, Fire-Dex, Gore, PBI, Narcote, and Tencate.

F. Defendants Know Exposure to PFAS Causes Serious Health Impacts

193. Defendants, including specifically 3M and DuPont, have long known about the serious and significant impacts to health caused by exposure to PFAS, having conducted study after study on the exposure and health effects of PFAS on animals, and in some cases, even on their own employees. The findings of these studies were discussed within the companies internally yet were never made public or shared with any regulatory agencies. Among the findings:

- a. 1950 3M study showed that PFAS could build up in the blood of mice and that PFAS could bind to proteins in human blood, suggesting that PFAS would not only remain but also persist and accumulate in the body of the exposed individuals with each additional exposure.²⁶

²⁵ See Our History, Lion Website, <http://www.lionprotects.com/lion-history> (last visited May 15, 2023); Firefighter Turnouts, Lion Website, <https://www.lionprotects.com/firefighter-turnout-gear#> (last visited May 15, 2023).

²⁶ Timeline - For 50 Years, Polluters Knew PFAS Chemicals Were Dangerous But Hid Risks From Public, Env't Working Grp., (2019), https://static.ewg.org/reports/2019/pfa-timeline/3M-DuPont-Timeline_sm.pdf (last visited May 15, 2023); see also, Jared Hayes, For Decades, Polluters knew PFAS Chemicals Were Dangerous But Hid Risks From Public, (Aug. 29, 2019) <https://www.ewg.org/pfastimeline/> (last visited May 15, 2023).

- b. In 1961, a DuPont toxicologist warned that PFAS chemicals enlarge rat and rabbit livers.²⁷ A year later, these results were replicated in studies with dogs.²⁸
- c. In 1963, 3M's technical handbook classified PFAS as toxic and advised that "due care should be exercised in handling these materials."²⁹
- d. In 1970, a company that purchased 3M's firefighting foam had to abandon a test of the product because all the fish died.³⁰
- e. In the 1970s, DuPont discovered that there were high concentrations of PFOA in the blood samples of factory workers at DuPont's Washington Works site.³¹
- f. By the end of the 1970s, studies performed, by at least 3M, indicated that PFAS materials were resistant to environmental degradation and would persist in the environment.³²
- g. In 1981, 3M, which still supplied PFOA to DuPont and other corporations, found that ingestion of PFOA caused birth defects in rats. 3M reported this information to DuPont. DuPont then tested the children of pregnant employees in their Teflon division and found that of seven births, two children had eye defects. Defendants reassigned the female employees but did not inform the EPA or make this information public.³³
- h. In 1988, a company that purchased PFAS firefighting foam complained to 3M because the product was not biodegradable as 3M represented.³⁴ Subsequently,

²⁷ *Id.*

²⁸ Nathaniel Rich, *The Lawyer Who Became DuPont's Worst Nightmare*, Oklahoma Times (June 6, 2016), <https://www.nytimes.com/2016/01/10/magazine/the-lawyer-who-became-duponts-worst-nightmare.html>.

²⁹ *Id.*

³⁰ *Id.*

³¹ Nathaniel Rich, *The Lawyer Who Became DuPont's Worst Nightmare*, Oklahoma Times (June 6, 2016), <https://www.nytimes.com/2016/01/10/magazine/the-lawyer-who-became-duponts-worst-nightmare.html> (last visited May 15, 2023).

³² *PFCS: Global Contaminants: PFCs Last Forever*, Environmental Working Group, (April 3, 2003), <https://www.ewg.org/research/pfcs-global-contaminants> (last visited May 15, 2023).

³³ Timeline - For 50 Years, Polluters Knew PFAS Chemicals Were Dangerous But Hid Risks From Public, Env't Working Grp., (2019), https://static.ewg.org/reports/2019/pfa-timeline/3M-DuPont-Timeline_sm.pdf (last visited May 15, 2023); see also, Jared Hayes, For Decades, Polluters knew PFAS Chemicals Were Dangerous But Hid Risks From Public, (Aug. 29, 2019) <https://www.ewg.org/pfastimeline/> (last visited May 15, 2023).

³⁴ *The Devil They Knew: PFAS Contamination and the Need for Corporate Accountability, Part II*, Transcript of Hearing Before the Subcommittee on Environment of the Committee on Oversight and Reform, House of Representatives (September 19, 2019), <https://www.congress.gov/116/meeting/house/109902/documents/HHRG-116-GO28-Transcript-20190910.pdf> (last visited May 15, 2023).

a 3M employee wrote an internal memo that “3M should stop perpetrating the myth that these fluorochemical surfactants are biodegradable, but the company continued to sell them.”³⁵

- i. By at least the end of the 1980s, research performed by Defendants, including specifically, Defendants 3M and DuPont, manufacturing and/or using PFAS materials indicated that at least one such PFAS material, PFOA, caused testicular tumors in a chronic cancer study in rats, resulting in at least Defendant DuPont classifying such PFAS material internally as a confirmed animal carcinogen and possible human carcinogen.³⁶
- j. In the 1990s, Defendant DuPont knew that PFOA caused cancerous testicular, pancreatic, and liver tumors in lab animals. One study also suggested that PFOA exposure could cause possible DNA damage.³⁷ Another study of workers found a link between PFOA exposure and prostate cancer.³⁸
- k. In response to the alarming and detrimental health impact, DuPont began to develop an alternative to PFOA and in 1993, an internal memo announced that “for the first time, we have a viable candidate” that appeared to be less toxic and showed less bioaccumulation.³⁹ DuPont decided against using this potentially safer alternative, however, because products manufactured with PFOA were worth \$1 billion in annual profit.⁴⁰
- l. On June 30, 2000, 3M and DuPont met to share 3M’s “pertinent data on PFOA”. 3M informed DuPont that the half-life of PFOA was much longer than animal studies showed.⁴¹

194. Additionally, approximately fifty years of studies by Defendants, including by 3M and DuPont, on human exposure to PFAS found unacceptable levels of toxicity and bioaccumulation, as well as a link to increased incidence of liver damage, various cancers, and

³⁵ *Id.*

³⁶ Timeline - For 50 Years, Polluters Knew PFAS Chemicals Were Dangerous But Hid Risks From Public, Env’t Working Grp., (2019), https://static.ewg.org/reports/2019/pfa-timeline/3M-DuPont-Timeline_sm.pdf (last visited May 15, 2023); see also, Jared Hayes, For Decades, Polluters knew PFAS Chemicals Were Dangerous But Hid Risks From Public, (Aug. 29, 2019) <https://www.ewg.org/pfastimeline/> (last visited May 15, 2023).

³⁷ *Id.*

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ Internal DuPont Memorandum, DuPont Haskell Laboratory Visit (June 30, 2000), <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1721.pdf> (last visited May 15, 2023).

birth defects in humans exposed to PFAS.⁴² These studies also revealed that, once in the body, PFAS has a very long half-life and that it takes years before even one-half of the chemicals begins to be eliminated from the body—assuming, of course, the body experiences no additional PFAS chemical exposure.⁴³

195. In the face of these findings, and despite passage of the Toxic Substances Control Act in 1976, which requires companies that manufacture, process, or distribute chemicals to immediately report to EPA information that “reasonably supports the conclusion” that a chemical presents a substantial risk to health or the environment, Defendants did not inform the EPA, Plaintiff, or the public about the health impacts resulting from exposure to PFAS.⁴⁴ Indeed, in at least some instances, Defendants’ own attorneys advised the companies to conceal their damaging findings on PFAS, which they did for decades.⁴⁵

196. In 2000, 3M announced that it would cease manufacturing a specific PFAS chemical, PFOS, as well as Class B foam, on the same day the EPA announced that PFOA and PFOS, two chemicals in the PFAS family, had a “strong tendency to accumulate in human and

⁴² Timeline - For 50 Years, Polluters Knew PFAS Chemicals Were Dangerous But Hid Risks From Public, Env’t Working Grp., (2019), https://static.ewg.org/reports/2019/pfa-timeline/3M-DuPont-Timeline_sm.pdf (last visited May 15, 2023); see also, Jared Hayes, For Decades, Polluters knew PFAS Chemicals Were Dangerous But Hid Risks From Public, (Aug. 29, 2019) <https://www.ewg.org/pfastimeline/> (last visited May 15, 2023).

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ *The Devil They Knew: PFAS Contamination and the Need for Corporate Accountability, Part II*, Transcript of Hearing Before the Subcommittee on Environment of the Committee on Oversight and Reform, House of Representatives (September 19, 2019), <https://www.congress.gov/116/meeting/house/109902/documents/HHRG-116-GO28-Transcript-20190910.pdf> (last visited May 15, 2023).

animal tissues and could potentially pose a risk to human health and the environment over the long term.”⁴⁶

197. However, 3M did not recall PFOS, its chemical feedstock, or any Class B foam that it had previously manufactured, sold, or distributed, or that was then stored at firehouses and being used by firefighters around the country. And no other Defendant stopped manufacturing PFAS chemicals or products containing PFAS. Rather, Defendants continued to manufacture, develop, market, promote, distribute, and sell PFAS chemicals and PFAS-containing products, including specifically PFAS-containing bunker gear, and Class B foams and did so without any warning to firefighters or to the public concerning the fact that these bunker gear and foams contained PFAS, or that they posed a serious health risk to human health. Defendants instead continued to claim their products were safe.

198. By the 2000s, Defendants’ own research of its employees revealed multiple adverse health effects among workers who had been exposed to PFAS, including increased cancer incidence, hormone changes, lipid changes, and thyroid and liver impacts.⁴⁷

199. In 2001, a class action lawsuit was filed in West Virginia against DuPont on behalf of people whose water had been contaminated by the nearby DuPont chemical plant where PFAS chemicals were manufactured.

⁴⁶ *EPA and 3M Announce Phase Out of PFOS*, Press Release, United States Environmental Protection Agency (May 16, 2000), https://www.epa.gov/archive/epapages/newsroom_archive/newsreleases/33aa946e6cb11f35852568e1005246b4.html (last visited May 15, 2023).

⁴⁷ *Timeline - For 50 Years, Polluters Knew PFAS Chemicals Were Dangerous But Hid Risks From Public*, Env’t Working Grp., (2019), https://static.ewg.org/reports/2019/pfa-timeline/3M-DuPont-Timeline_sm.pdf (last visited May 15, 2023); *see also*, Jared Hayes, *For Decades, Polluters knew PFAS Chemicals Were Dangerous But Hid Risks From Public*, (Aug. 29, 2019) <https://www.ewg.org/pfastimeline/> (last visited May 15, 2023).

200. Defendants continued to manufacture, market, promote, distribute, and/or sell PFAS and PFAS-containing products, including bunker gear and Class B foam, and continued to publicly claim that these products were safe. Defendants affirmatively suppressed independent research on PFAS, and instead commissioned research and white papers to support their claims that PFAS and PFAS-containing products were safe to use, engaging consultants to further this strategy and ensure that they would continue to profit from these toxic chemicals and products.

201. As one consultant wrote in pitching its services to DuPont, it was critical that the PFAS industry develop an aggressive strategy to “[discourage] governmental agencies, the plaintiff’s bar and misguided environmental groups” and “[implement] a strategy to limit the effect of litigation and regulation on the revenue stream generated by PFOA.” The strategy was further described by consultant as follows:

DUPONT MUST SHAPE THE DEBATE AT ALL LEVELS. . . . The outcome of this process will result in the preparation of a multifaceted plan to take control of the ongoing risk assessment by the EPA, looming regulatory challenges, likely litigation, and almost certain medical monitoring hurdles. The primary focus of this endeavor is to strive to create the climate and conditions that will obviate, or at the very least, minimize ongoing litigation and contemplated regulation relating to PFOA. *This would include facilitating the publication of papers and articles dispelling the alleged nexus between PFOA and teratogenicity as well as other claimed harm.* We would also lay the foundation for creating Daubert precedent to discourage additional lawsuits.⁴⁸

202. Class B foam manufacturers and distributors adopted a similarly aggressive industry campaign to evade government oversight or public attention of the risks posed by their products. At a March 2001 meeting of the National Fire Protection Association’s (“NFPA”) Technical Meeting on Foam, which included Defendant Class B foam manufacturers Tyco, Chemguard, and National Foam, a 3M representative informed attendees that 3M had discontinued

⁴⁸ Letter from P. Terrence Gaffney, Esq of The Weinberg Group to Jane Brooks, Vice President, Special Initiatives, DuPont de Nemours & Company, regarding PFOA (April 29, 2003).

its Class B foam business, citing concerns about the “proven pervasiveness, persistence and toxicity” of PFOS.⁴⁹ Attendees also were informed of evidence that telomer-based fluorosurfactants (used by every Class B foam manufacture except 3M) degrade to PFOA and, worse, exhibit an even greater degree of pervasiveness and toxicity than PFOA.

203. On or about the same time, certain Defendants, including at least Tyco, DuPont, Kidde, and Buckeye, founded and/or became members of the Fire Fighting Foam Coalition (“FFFC”) – a non-profit organization of manufacturers, distributors, and suppliers of Class B foam (specifically AFFF). The FFFC’s self-described role was to be “the environmental voice for users and manufacturers of AFFF”⁵⁰ – one designed to ignore the health impacts of exposure to PFAS containing Class B foams such as AFFF:

Not too long ago, 3M had environmental concerns about a chemical in their product and decided to withdraw from the AFFF market. Even though no other manufacturers used the questionable chemical, the withdrawal of 3M from AFFF production raised a red flag. As a direct result, a lot of half-truths and misinformation published by some well-meaning, but misinformed, groups began to surface. One organization went so far as to label our products as “hazardous waste” and as posing an “occupational health or environmental hazard.” At the same time, the Federal government was focusing its attention on the industry and needed to identify an industry representative that could provide fact-based information and serve as a focal point for dialogue. We decided, therefore, to form the FFFC in order to educate, inform and help persuade regulatory and legislative decision-makers that firefighting foams are a value-added component to any firefighting capability.⁵¹

204. Defendants also pivoted with a new industry strategy. Defendants continued to produce Class B foams containing PFAS and continued to publicly represent that PFAS and/or products containing PFAS were safe, while developing newer, “short-chain” PFAS alternatives.

⁴⁹ NFPA-11 Technical Committee Meeting Notes (National Fire Protection Association for Standards on Low-, Medium- and High-Expansion Foam) (March 14-15, 2001).

⁵⁰ Fire Fighting Foam Council Website, <https://www.ffffc.org/aFFF-update> (last visited May 15, 2023).

⁵¹ *Id.*

205. In 2005, the EPA fined DuPont \$16.5 million for failing to submit decades of toxicity studies of PFOA (one PFAS chemical manufactured by the company).⁵² In the face of and undeterred by the EPA's action, Defendant turnout manufacturers, such as MSA/Globe and Lion, partnered with DuPont and with Defendant Gore to develop, manufacture, market, distribute and/or sell bunker gear made with DuPont's and/or Gore's PFAS-based textile coatings (e.g., Nomex® and Gore® Protective Fabrics).⁵³

206. In 2006, the EPA "invited" eight PFOA manufacturers, including Defendants DuPont, 3M, and Arkema to join in a "Global Stewardship Program" and phase out production of PFOA by 2015.⁵⁴

207. By this time, Defendants had begun to aggressively manufacture, market, sell and/or distribute short-chain PFAS, such as Gen X, claiming that these alternative PFAS chemicals did not pose significant health risks to humans or the environment. But, these claims, too, were false. Defendants knew that certain of these short-chain PFAS chemicals had been found in human

⁵² Michael Janofsky, *DuPont to Pay \$16.5 Million for Unreported Risks*, Oklahoma Times (December 5, 2005), <https://www.nytimes.com/2005/12/15/politics/dupont-to-pay-165-million-for-unreported-risks.html> (last visited May 15, 2023).

⁵³ *DuPont and LION Collaborate to Better Protect Firefighters and First Responders*, Press Release, DuPont and LION (January 30, 2013), https://www.prweb.com/releases/dupont_protection_tech/lion_turnout_gear/prweb10362363.htm (last visited May 15, 2023); *Our Partners*, Globe Website <https://globe.msasafety.com/ourpartners> (last visited May 15, 2023); and *PPE Solutions for Emergency Response*, DuPont Website, <https://www.dupont.com/personal-protection/emergency-response-ppe.html> (last visited May 15, 2023).

⁵⁴ *PFOA Stewardship Program*, United States Environmental Protection Agency, <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/fact-sheet-20102015-pfoa-stewardship-program> (last visited May 15, 2023).

blood and that at least one of them produces the same types of cancerous tumors (testicular, liver, and pancreatic) in rats as had been found in long-chain PFAS studies.⁵⁵

208. In 2011, a C8 Science Panel convened as part of a settlement in the West Virginia DuPont water contamination case described above, began releasing its findings. The Panel had analyzed the blood serum of nearly 70,000 residents living in the water contamination area for two long-chain PFAS (PFOA and PFOS), and found significant negative human health effects (including, kidney cancer, testicular cancer, ulcerative colitis, thyroid disease, high cholesterol, and preeclampsia) associated with exposure to these PFAS chemicals in the area groundwater.

209. In 2013, DuPont entered an agreement with the EPA and ceased production and use of PFOA – just one of thousands of PFAS chemicals the company makes, promotes, and sells. Defendants, however, continued manufacturing short-chain PFAS materials, chemical feedstock, and products—all the while peddling them as safer, and as more easily bio-degraded than long-chain PFAS, despite evidence to the contrary.⁵⁶

210. In 2015, DuPont spun-off its PFAS chemicals business, as well two-thirds of its environmental liabilities and 90% of its active litigation, to Defendant Chemours. As part of the transaction, DuPont required Chemours to indemnify the “new” DuPont for all assigned environmental liabilities should a regulatory agency or plaintiff seek to hold the “new” DuPont

⁵⁵ Sharon Lerner, *New Teflon Toxin Causes Cancer in Lab Animals*, The Intercept (March 3, 2016), <https://theintercept.com/2016/03/03/new-teflon-toxin-causes-cancer-in-lab-animals/> (last visited May 15, 2023).

⁵⁶ Cheryl Hogue, *Short-chain and long-chain PFAS show similar toxicity, US National Toxicology Program says*, Chem. And Eng'g News, (August 24, 2019), <https://cen.acs.org/environment/persistent-pollutants/Short-chain-long-chain-PFAS/97/i33> (last visited May 15, 2023); Tom Neltner, *The Elephant in the Room: Potential Biopersistence of Short-Chain PFAS*, Environmental Defense Fund, (February 20, 2019), <http://blogs.edf.org/health/2019/02/20/potential-biopersistence-short-chain-pfas/> (last visited May 15, 2023).

accountable. As Chemours President Paul Kirsch testified before Congress: “DuPont designed the separation of Chemours to create a company where it could dump its liabilities to protect itself from environmental cleanup and related responsibilities.”⁵⁷

211. In June 2018, the Agency for Toxic Substances and Disease Registry (ASTDR), a division of the Centers for Disease Control and Prevention at the U.S. Department of Health and Human Services released an 852-page draft toxicology report analyzing scientific data about the most common PFAS chemical variants, finding that PFAS “are potentially more hazardous than previously known, are particularly concerning because of these compounds’ persistence in the environment and widespread prevalence—PFAS are extremely slow to biodegrade.”⁵⁸

212. In September 2019, DuPont chief operations and engineering officer Daryl Roberts testified before Congress that the “new DuPont” (to be distinguished from the “old DuPont” which manufactured and sold PFAS for decades before being spun-off to Chemours) no longer uses or manufactures PFAS and is no longer responsible for obligations and harms resulting from over 65 years of producing PFAS.⁵⁹ Roberts remarked that he knew nothing about “old DuPont’s” efforts to suppress research on PFAS’ toxicity – as testified to by one of DuPont’s former scientists only

⁵⁷ *The Devil They Knew: PFAS Contamination and the Need for Corporate Accountability, Part II*, Transcript of Hearing Before the Subcommittee on Environment of the Committee on Oversight and Reform, House of Representatives (September 19, 2019), <https://www.congress.gov/116/meeting/house/109902/documents/HHRG-116-GO28-Transcript-20190910.pdf> (last visited May 15, 2023).

⁵⁸ *A Toxic Threat: Government Must Act Now on PFAS Contamination at Military Bases*, Center for Science and Democracy (September 2018), <https://www.ucsusa.org/resources/toxic-threat-pfas-contamination-military-bases> (last visited May 15, 2023).

⁵⁹ *The Devil They Knew: PFAS Contamination and the Need for Corporate Accountability, Part II*, Transcript of Hearing Before the Subcommittee on Environment of the Committee on Oversight and Reform, House of Representatives (September 19, 2019), <https://www.congress.gov/116/meeting/house/109902/documents/HHRG-116-GO28-Transcript-20190910.pdf> (last visited May 15, 2023).

a few days earlier.⁶⁰ Finally, he stated that any liabilities from “old DuPont’s” PFAS operations were now Chemours’ problem because DuPont is essentially a completely new company with no past – only a bright future of doing good in the world.⁶¹

G. Defendants Failed to Warn Plaintiff of the Dangers of Exposure to PFAS and Falsely Represented That Their PFAS Products Were Safe

213. As alleged above, Defendants knew that PFAS are persistent, toxic, and bioaccumulating with a very long half-life. They knew that exposure to PFAS can cause serious and life-threatening diseases, including cancer.

214. Yet, Defendants *did not warn* Plaintiff that PFAS and Defendants’ PFAS containing products, including bunker gear and Class B foams used by Plaintiff, contained PFAS, or that exposure to PFAS in the normal and intended use of such products causes serious bodily harm and illnesses, including cancer.

215. Instead, Defendants falsely represented—and continue to falsely represent—that PFAS and PFAS-containing products, including bunker gear and Class B foams, are safe and not harmful to humans or the environment.

216. Such assertions fly in the face of science and a global movement toward eliminating this class of chemicals from consumer products. In 2020, for example, Congress passed legislation to address PFAS in bunker gear and foam,⁶² and numerous states have severely restricted and/or banned PFAS-containing firefighting foam. For example, California will require sellers of bunker gear to notify purchasers if it contains PFAS, while Colorado has banned PFAS-containing bunker

⁶⁰ *Id.*

⁶¹ *Id.*

⁶² Ryan Woodward, *Congress Passes Legislation to Address PFAS Chemicals Impacting Firefighters*, Fire Rescue 1,(December 17, 2020), <https://www.firerescue1.com/legislation-funding/articles/congress-passes-legislation-to-address-pfas-chemicals-impacting-firefighters-Sp8MFif5dAbD4ZrI/> (last visited May 15, 2023).

gear as of 2022.⁶³ The U.S. Food and Drug Administration similarly has called for phasing out of short-chain PFAS that contain 6:2 fluorotelomer alcohol (6:2 FTOH).⁶⁴ And private companies like Home Depot, Lowes, and Staples recently have begun to discontinue selling products containing any PFAS, as have several outdoor, durable clothing companies (e.g. Columbia and Marmot), clothing retailers (e.g. H&M and Levi Strauss & Co), shoe companies (e.g. Adidas and New Balance), car seat manufacturers (e.g. Britax and Graco), furniture companies (e.g. IKEA), personal care companies (e.g. Johnson & Johnson and Oral-B), and textile manufacturing companies.⁶⁵

(1) Defendants Provide No Safety Warning on Product Labels

⁶³ Andrew Wallender, *Toxic Firefighting Foam With PFAS Scrutinized by Multiple States*, Bloomberg Law (June 18, 2020), <https://www.firerescue1.com/legislation-funding/articles/congress-passes-legislation-to-address-pfas-chemicals-impacting-firefighters-Sp8MFif5dAbD4ZrI/> (last visited May 15, 2023); Cheryl Hogue, *California Bans PFAS Firefighting Foams*, Chemical & Engineering News (October 1, 2020), <https://cen.acs.org/environment/persistent-pollutants/California-bans-PFAS-firefighting-foams/98/i38> (last visited May 15, 2023); Marianne Goodland, *While Dozens of Bills Are Getting Axed, A Bill on Firefighting Chemicals Sails On*, Colorado Politics (May 28, 2020), https://www.coloradolitics.com/legislature/while-dozens-of-bills-are-getting-axed-a-bill-on-firefighting-chemicals-sails-on/article_1b1e05f2-a11e-11ea-a270-230a36e06594.html (last visited May 15, 2023); *Legislature Takes Strongest Stand Yet to Phase out PFAS in Firefighting Foam*, Washington State Council of Fire Fighters (March 5, 2020), <https://www.wscff.org/legislature-takes-strongeststand-yet-to-phase-out-pfas-in-firefighting-foam/> (last visited May 15, 2023).

⁶⁴ *FDA Announces the Voluntary Phase-Out by Industry of Certain PFAS Used in Food Packaging*, U.S. Food and Drug Administration, (July 31, 2020), <https://www.fda.gov/food/cfsan-constituent-updates/fda-announces-voluntary-phase-out-industry-certain-pfas-used-food-packaging> (last visited May 15, 2023).

⁶⁵ Muhannad Malas, *Home Depot, Lowe's and Staples Take Action to Protect Their Customers from PFAS and Other Harmful Toxics Lurking in Carpets and Office Supplies*, Environmental Defence (November 5, 2019), <https://environmentaldefence.ca/2019/11/05/home-depot-lowes-staples-protect-customers-toxics/> (last visited May 15, 2023); *PFAS-Free Products*, PFAS Central, <https://pfascentral.org/pfas-free-products/> (last visited May 15, 2023);

217. Plaintiff alleges that the packaging on the PFAS-containing Class B foam containers, used for mixing Class B foam with water and for spraying and laying foam blankets for fire suppression or fire suppression training, contained no warning that the Class B foam contained PFAS. Nor did it inform persons handling or using the foam as it was intended to be handled that such use can result in exposure to PFAS and serious bodily harm.

218. The Class B foam containers manufactured, marketed, distributed, or sold by Defendants in Kentucky that Plaintiff was potentially exposed to in training or in fire suppression during his firefighting career warn only of possible skin or eye irritation and suggest rinsing areas of contact with water. They contain ***no information*** about the Class B foam containing PFAS or PFAS-containing materials and provide ***no warning whatsoever*** of the human health risks and serious health conditions associated with PFAS exposure resulting from the normal and intended use of Class B foam in fire suppression or fire suppression training.

219. Plaintiff further alleges that bunker gear containing PFAS or PFAS materials sold by Defendants in Kentucky, and used by Plaintiff in training, emergency incidents, or in fire suppression during his firefighting career, also contained no warning that the bunker gear contain PFAS or PFAS materials. Nor did these labels inform persons handling, wearing, or using the bunker gear as they were intended to be handled, worn, or used can result in exposure to PFAS and serious bodily harm.

220. Furthermore, the warning labels for bunker gear manufactured, marked, sold, and distributed by Defendants do not disclose that the PFAS or PFAS materials in the bunker gear are toxic, and contain no warning that handling, wearing, or using the bunker gear as they were intended to be handled, worn, or used can result in exposure to PFAS and serious bodily harm. Moreover, while the labels provide washing instructions, the instructions do not advise that bunker

gear should be washed in a commercial extractor to prevent cross-contamination and PFAS-exposure to family members who handle or wash the bunker gear with other garments in home washing machines.

(2) Defendants' MSDS Sheets Do Not Warn About PFAS or PFAS Exposure

221. A Material Safety Data Sheet (or "MSDS") is a document that Occupational Safety and Health Administration (OSHA) requires companies to provide to end users for products that contain substances or chemicals that are classified as hazardous or dangerous. Access to such information is necessary for Plaintiff to provide a safe and effective response in emergency situations.

222. The MSDS provided with Defendants' Class B foams did not – and to this day do not – state that these foams contain PFAS or PFAS-containing materials; that PFAS is persistent, toxic and bio-accumulating; or that PFAS exposure causes serious bodily harm. To the contrary, the MSDS falsely stated that the Class B foams and/or their contents were ***not*** known carcinogens and did not cause birth defects.

223. Even now, the MSDS do not reflect the known serious health risks and hazards associated with exposure to PFAS in these Class B foams. For example, a MSDS updated on as recently as May 19, 2021, by Defendant National Foam for AFFF stated the product ***was not considered carcinogenic*** – contrary to decades of science.⁶⁶

(3) Defendants Coercively Influenced the NFPA

⁶⁶ National Foam Safety Data Sheet for Centurion (TMC6) 6% Aqueous Film Forming Foam Concentrate (AFFF) (May 19, 2021), https://nationalfoam.com/wp-content/uploads/sites/4/NMS340_Centurion-6-AFFF-Concentrate_052192021.pdf (last visited May 15, 2023).

224. As frequent sponsors and advertisers in fire service publications, Defendants have been so influential in the industry that fire service leadership has echoed the narratives that the industry bunker gear did not have significant levels of PFAS and that the bunker gear was completely safe for use.

225. In firefighter cancer-related publications, programs, and events, Defendants repeatedly used the summit as an opportunity to push the narrative that incidence of cancer among firefighters is attributable to other chemicals encountered in the line of duty, or firefighters' failure to wash their bunker gear after every call. Not once have the Defendants admitted that the PFAS material in their products has been found to be carcinogenic and that the very equipment that should be protecting firefighters are causing the most harm. Further, Lion's recently launched "Not in Our House" cancer awareness program is sadly ironic in that it encourages fighters, themselves, to make a pledge to protect themselves from carcinogens linked to cancer ("I will make every effort to protect myself and my team by doing my part to take precautions that will minimize the risk of exposure to carcinogens that may lead to cancer...."), while all the while refusing to take any corporate responsibility for continually exposing firefighters to carcinogens in their protective gear.⁶⁷

226. The Defendants have a similar influence over the NFPA and their regulations for appropriate firefighting bunker gear.

227. Defendants hold numerous positions on NFPA committees and were the driving force behind the UV light degradation test which is one of the main reasons why PFAS continues to be in bunker gear today.

⁶⁷ Rachel Zoch, *Take A Pledge To Stop Cancer At the Door*, Fire Rescue 1 (January 28, 2019), <https://www.firerescue1.com/fire-products/personal-protective-equipment-ppe/articles/take-a-pledge-to-stop-cancer-at-the-door-e8bn7uAbtIXWdQau/> (last visited May 15, 2023).

228. Defendants have continued to show their influence over the decades by providing mischaracterized science and studies lacking in peer review. This can be seen in Defendants' continued use of a thesis paper of a master's student in 2000, Defendants' industry funded studies of their materials, and continued statements that their bunker gear and materials used for bunker gear are safe.

(4) Defendants' Fraudulent Concealment and Misrepresentations About PFAS Continue to this Day

229. Despite their decades of knowledge about PFAS and its dangers, Defendants continue to make false claims, continue to misrepresent the safety of PFAS, and continue to minimize and fail to warn about the hazards of exposure to PFAS, or bunker gear and Class B foams made with or containing PFAS.

230. For example, Gore has known for decades that PFAS compounds can be absorbed through the skin and that inhalation, ingestion, and dermal absorption are all potential roots of exposure for PFOS, PFOA, and APFO.

231. As alleged above, Defendants' misinformation campaign is long-standing, and continues to this day. Some pertinent examples include:

- a. 2017 – Lion's President, Stephen Schwartz, wrote a letter to the editor of the Columbus Dispatch, expressing outrage at the assertion in a government filing that firefighters may have been exposed to PFAS through bunker gear. Schwartz called this assertion false, stating that Lion's bunker gear is not treated or made with PFOS or PFOA, and further stating, *inter alia*, that: "PFOAs and PFOSs have never been components of Lion's turn-out gear, either as a coating or as a textile." He acknowledged that bunker gear is treated with PTFE to provide a durable water repellent, and that the textile industry in the past had used PFOA as a processing aid to manufacture PTFE moisture barrier films and repellents. "It is possible that trace amounts may have been present as a residue when the films and finishes were incorporated into [the company's] turn-out gear. ***However, based on all available scientific data, such nominal trace amounts, if they existed at all, would not have posed any health risk to firefighters. There is absolutely no connection at all between PFOS and firefighter turnout gear.***" (Emphasis added).

- b. 2018 – The National Fire Protection Association (which maintains committees on foams and bunker gear that are comprised, in part, of certain Defendants) issued a publication listing 11 ways to minimize risk of occupational cancer – the suggestions centered on wearing bunker gear for protection resulting from combustion or spills, and cleaning bunker gear after exposure to chemicals. There was not a single mention of avoiding contact with foam and/or the risks of wearing bunker gear containing PFAS or PFAS-containing materials.⁶⁸
- c. 2019 – Defendant Lion issued a Customer Safety Alert for PFOA and Turnout Gear stating: “Your Lion turnout gear continues to be safe and ready for action especially when properly maintained. It is extremely important that firefighters continue to wear and properly care for their gear to stay safe on the job.”⁶⁹
- d. 2019 – Defendant 3M Vice President, Denise Rutherford, testified before Congress that she *absolutely agreed with the statement that “the weight of current scientific evidence does not show that PFOS or PFOA cause adverse health effects in humans at current rates of exposure.”* (Emphasis added).⁷⁰
- e. 2019 – The Fire Fighting Foam Council (of which many Defendants have been members of since its inception in 2001) wrote in their newsletter that: “Shortchain (C6) fluorosurfactants do not contain or breakdown in the environment to PFOS or PFOA and are currently considered lower in toxicity and have significantly reduced bio-accumulative potential than long-chain PFAS.”⁷¹
- f. 2019 – Defendant Gore issued a public statement, stating that “the potential exposures and associated risks of cancer effects from PFOA alternative and non-polymeric perfluoroalkyl substances in Gore Components [bunker gear] are insignificant.”⁷²

⁶⁸ *11 Best Practices for Preventing Firefighter Cancer Outlined in New Report Put Out by VCOS and NVFC*, National Fire Protection Association Xchange (August 16, 2018), <https://www.nfpa.org/News-and-Research/Publications-and-media/Blogs-Landing-Page/NFPA-Today/Blog-Posts/2018/08/16/11-best-practices-for-preventing-firefighter-cancer-outlined-in-new-report-put-out-by-vcos-and-nvfc> (last visited May 15, 2023).

⁶⁹ Lion Customer Safety Alert, *PFOA And Turnout Gear*, https://legacy-assets.eenews.net/open_files/assets/2021/02/16/document_gw_08.pdf (last visited May 15, 2023).

⁷⁰ Gabe Schneider, *3M Grilled over PFAS Chemicals at Congressional Hearing*, MinnPost (September 11, 2019), <https://www.minnpost.com/national/2019/09/3m-grilled-over-pfaschemicals-at-congressional-hearing/> (last visited May 15, 2023).

⁷¹ AFFF Update Newsletter, Fire Fighting Foam Coal. (April 2019), <https://tinyurl.com/y57c5jwx>, (last visited May 15, 2023).

⁷² W. L. Gore and Associates, *Exposure Assessment and Cancer Risk Characterization for Firefighters from Non- Polymeric PFAS Residuals in Gore Components Used in Firefighting Gear*, (August 20, 2019),

- g. 2020 – FluoroCouncil – the lobbying arm of the PFAS industry – maintains that PFAS fluorotelomers that are in Class B foam and bunker gear do not cause cancer, disrupt endocrine activity, negatively affect human development or reproductive systems, do not build up in the human body, and do not become concentrated in the bodies of living organisms.⁷³
- h. 2020 – The Fire Fighting Foam Council website states: “The short-chain (C6) fluorosurfactants that have been the predominant fluorochemicals used in fluorotelomer-based AFFF for the last 25 years are low in toxicity and not considered to be bio-accumulative based on current regulatory criteria.”⁷⁴
- i. 2020 – The Fire Fighting Foam Council’s Best Practice Guidance for Use of Class B Foam - which was published in May 2016 and has not been updated to reflect the latest research - focuses entirely on eliminating and containing foam to minimize impact on the environment. It makes no mention of how to minimize the impact on firefighters who routinely handle, prepare, spray, or use Class B foam during training or in firefighting.⁷⁵
- j. 2020 – Defendant Lion’s hired consultant Paul Chrostowski, PhD took out a full-page in a fire service trade publication, Firefighter Nation, to argue that bunker gear is completely safe and any evidence to the contrary, including the Notre Dame study, is unreliable and fearmongering. “[E]ven if PFAS were found in their turnout gear, at this time there is no credible evidence that it ends up in firefighters’ bodies in amounts that would be higher than the general population.... the connection between PFAS and cancer is extremely weak. The few peer-reviewed epidemiological studies that have found an association were not statistically significant and inconsistent with other studies.... The materials used in turnout gear are the safest materials available, and without them, firefighters would be at extreme risk for burns and exposure to known cancer-causing toxic chemicals present on the fireground, as well as metabolic heat stress.... Alternative materials tried by the U.S. fire service thus far have proven to be unsafe.⁷⁶

<https://www.goretexprofessional.com/sites/default/files/pdfs/Firefighter%20Exposure%20Assessment%20Short%20Chain%20Non%20Polymer%20Residual.pdf> (last visited May 15, 2023).

⁷³ *FluoroCouncil PFAS Information*, Glob. Indus. Council for FluoroTechnology, (August 23, 2019) <https://portal.ct.gov/DEEP/Remediation--Site-Clean-Up/PFAS-Task-Force/Pollution-Prevention-Committee> (last visited May 15, 2023).

⁷⁴ *Fact Sheet on AFFF Fire Fighting Agents*, Fire Fighting Foam Coal. (2017), <https://tinyurl.com/yyxscyas> (last visited May 15, 2023).

⁷⁵ *Best Practice Guidance for Use of Class B Firefighting Foams*, Fire Fighting Foam Coal. (May 2016), <https://tinyurl.com/2kzdse9> (last visited May 15, 2023).

⁷⁶ Paul Chrostowski, *Research and Independent Testing Shows Firefighters’ Turnout Gear Remains Safe Despite Claims* (June 3, 2020), <https://www.firefighternation.com/health-safety/research-and-independent-testing-shows-firefighters-turnout-gear-remains-safe-despite-claims/#gref> (last visited May 15, 2023).

- k. 2020 – Defendant Lion’s hired consultant Chrostowski also stated in Firefighter Nation that all bunker gear are compliant with the standards set by the NFPA and Swiss organization OEKO-TEX’s Standard 100 for PPE and Materials for PPE. “The OEKO-TEX certification process tests for the presence of unsafe levels of trace materials, including PFOA.”⁷⁷
- l. 2021 – In an Oklahoma Times article, Defendant W.L. Gore maintained that its turnout products were safe.⁷⁸
- m. 2021 – Defendant Lion stated that the representations articulated by its consultant Paul Chrostowski in 2020 (see above), reflect its position: “Dr. Chrostowski’s report says it all for Lion.”⁷⁹
- n. 2021 – Defendant MSA/Globe and W. L. Gore have continued to state that their products have been tested and are safe.⁸⁰
- o. 2022 – Defendant 3M stated that it was not “necessary or appropriate” to declare any PFAS hazardous.⁸¹ It also states on its website that: “The weight of scientific evidence from decades of research does not show that PFOS or PFOA causes harm in people at current or past levels.... Decades of research into the health of these workers has not identified negative health outcomes caused by exposure to PFOA or PFOS.... It is important to know that while some studies may find links or associations with possible health outcomes, this is not the same as causation. The weight of scientific evidence does not show that PFOS or PFOA causes harm to people at current or historical levels. Although PFAS have been detected in the environment at extremely low levels, their mere presence does not mean they are harmful.... Although it has been widely reported that no causal connection has been identified between exposure to PFOS or PFOA and harm to people’s health, there is a great deal of misinformation in the public domain.... The findings of the C-8 science panel are also frequently misunderstood.”⁸²

⁷⁷ *Id.*

⁷⁸ Hiroko Tabuchi, *Firefighters Battle an Unseen Hazard: Their Gear Could Be Toxic*, Oklahoma Times, (January 26, 2021), <https://www.nytimes.com/2021/01/26/climate/pfas-firefighter-safety.html> (last visited May 15, 2023).

⁷⁹ David Ferry, *The Toxic Job of Being A Hero*, Men’s Health, (September 21, 2021), <https://www.menshealth.com/health/a37624731/cancer-firefighter-gear-pfas/> (last visited May 15, 2023).

⁸⁰ Andrew Wallander, *Firefighters Want Halt on Money From Makers of PFAS-Laden Gear*, Bloomberg Law, (January 19, 2021), <https://news.bloomberglaw.com/pfas-project/firefighters-want-halt-on-money-from-makers-of-pfas-laden-gear> (last visited May 15, 2023).

⁸¹ Jim Spencer, *3M’s Support for PFAS Could Cost Taxpayers Billions of Dollars*, Star Tribune (September 11, 2021), <https://www.startribune.com/3m-s-support-for-pfas-could-cost-taxpayersbillions-of-dollars/600096094/> (last visited May 15, 2023).

⁸² *3M’s Commitment to PFAS Stewardship*, 3M, https://www.3m.com/3M/en_US/pfas-stewardship-us/health-science/ (last visited May 15, 2023).

p. 2022 – DuPont and Chemours also continue to assert that there is little scientific evidence to support that PFAS and/or certain PFAS, like fluoropolymers, are harmful to human health.⁸³

q. 2022 – DuPont maintains that bunker gear keeps firefighters safe and “helps protect against the intrusion of...chemicals.”⁸⁴

232. As frequent sponsors and advertisers in fire service publications, Defendants have been so influential in the industry that fire service leadership has echoed these narratives.

233. Also, in January 2021, Defendants DuPont and Chemours along with Corteva (the agricultural unit of DuPont that it spun off in 2019) announced a cost-sharing agreement worth \$4 billion to settle lawsuits involving the historic use of PFAS – thereby acknowledging, at long last, the significant harm their PFAS chemicals have caused to human health and the environment.

H. New Research Indicates That Firefighters are at Significant Risk of Harm From Exposure to PFAS in Bunker Gear and Class B Foams — But Defendants Continue to Discount or Deny These Risks

234. While historical research (and follow-on litigation) has centered on environmental impacts and environmental exposures associated with PFAS and PFAS-containing products, recent studies have focused specifically on the serious health impacts to firefighters stemming from their occupational exposure to bunker gear and Class B foams containing PFAS.

235. In October 2019, for example, an expert panel of the International Pollutants Elimination Network (IPEN), an international non-profit organization comprised of over 600 public interest non-governmental organizations dedicated to improving global chemical waste

⁸³ *What Government Agencies Say*, DuPont, <https://www.pp.dupont.com/pfas/what-governmental-agencies-say.html> (last visited May 15, 2023); *Our Commitment to PFAS Stewardship*, Chemours, <https://www.chemours.com/en/corporate-responsibility/sustainability-safety/our-commitment-to-pfas-stewardship> (last visited May 15, 2023).

⁸⁴ *Technology inside your turnout gear*, DuPont, <https://www.dupont.com/knowledge/dupont-technology-in-your-turnout-gear.html> (last visited May 15, 2023).

policies, published a scientific paper that, in the words of its authors, “presents unequivocal evidence from recent studies that firefighters” using Class B foams (primarily AFFF) “have unexpectedly elevated blood levels” of PFAS, including, specifically, PFHxS and PFOS, with PFHxS (a short-chain, C6 PFAS) being “potentially of greater concern than PFOS given its much longer elimination half-life in humans.”⁸⁵ The paper explains that “[f]irefighters can be significantly exposed to PFHxS and other PFAS from firefighting foam via various occupational mechanisms including direct exposure during use as well as exposure from contaminated personal protective equipment (PPE), handling of contaminated equipment, managing PFAS foam wastes, occupation of contaminated fire stations and consumption of contaminated local water and produce. Cross-contamination and legacy PFAS residues from inadequately decontaminated appliances after transitioning to fluorine-free foam can remain a long-term problem.”⁸⁶ The panel concluded that “[o]ngoing exposure to PFHxS, PFOS and other PFAS amongst firefighters remains a major occupational health issue,” noting that “[b]io-accumulation and very slow bioelimination may be very significant influencing factors in PFHxS exposure” in firefighters.⁸⁷ “Of greater concern,” the panel observed, “is that firefighter blood levels for PFOS and PFHxS are many times higher than the median values for the general...population.”⁸⁸

236. In June 2020, the Notre Dame Turnout Study, which analyzed over 30 sets of used and unused (still in their original packaging) bunker gear made by six U.S. manufacturers,

⁸⁵ *Perfluorohexane Sulfonate (PFHxS) – Socio-Economic Impact, Exposure and the Precautionary Principle Report*, IPEN Expert Panel (October 2019), https://ipen.org/sites/default/files/documents/pfhxs_socio-economic_impact_final_oct.2019.pdf (last visited May 15, 2023).

⁸⁶ *Id.* at 25.

⁸⁷ *Id.*

⁸⁸ *Id.*

including Defendants MSA/Globe, Lion and Honeywell, over several production years, was published.⁸⁹

237. The Notre Dame Turnout Study noted that these manufacturers' bunker gear (or personal protective equipment-PPE, as it is described in the study) are manufactured "from textiles that are made from fluoropolymers (one form of PFAS) or extensively treated by PFAS in the form of side-chain fluoropolymers."⁹⁰ According to the researchers, "[t]hese PFAS include fluoropolymer materials such as PTFE used as a moisture barrier in the inner layers of turnout gear."⁹¹ The study found significant levels of PFAS chemicals – including PFOA, PFOS, PFBA, PFPeA, PFHxA, PFHpA, PFNA, PFDA, PFUnA, PFDoA, PFTDA, PFTDA, PFBS, PFOSA, NEtFOSA, MeFOSAA, N-MeFOSE, N-EtFOSE and 6:20FTS – in both new and used bunker gear and across layers, portions, and materials in the bunker gear, including in material layers that are not intentionally treated with PFAS by the manufacturer, thereby providing "the first evidence that suggests PFAS appear to migrate from the highly fluorinated layers and collect in the untreated layer of clothing worn against the skin."⁹²

238. These findings suggest that, as the garments are worn, PFAS from the outer shell and the moisture barrier can migrate from the bunker gear and contaminate the firefighter, their apparatus, and their workplace with PFAS. The analysis also indicated that fluoropolymers from the outer layer decompose into other PFAS, including PFOA.

239. "Startlingly," researchers reported, "garment to hand transfer of total fluorine in the ppm range was also observed when researchers simply manipulated the textiles in [the]

⁸⁹ Graham Peaslee et al., Environmental Science & Technology Letters 2020, 7, 8, 594-599 (June 23, 2020).

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *Id.* at 596.

laboratory.”⁹³ The accumulation of PFAS on researchers’ hands strongly suggests that transference of ppm levels of PFAS can occur merely by handling the bunker gear and that PFAS exposure pathways include inhalation, ingestion, and/or absorption (through dermal contact) – all of which DuPont internally acknowledged as being toxic in 1980. Such exposure pathways are a concern not only for firefighters that rely on bunker gear to protect them from heat, fire, water, and chemical hazards in the field, but to family members who may be exposed to the PFAS in bunker gear as the result of home washing or storage. Lead researcher Dr. Graham Peaslee commented that bunker gear are “the most highly fluorinated textiles I’ve ever seen”⁹⁴ and that the level of PFAS in turnout gear means that firefighters are “swimming in a sea of [PFAS]. Those numbers for scientists are scarily high...”⁹⁵

240. Despite these findings, Defendants have been quick to mischaracterize, dismiss, or downplay the significance of the Notre Dame Turnout Study.”⁹⁶

241. Defendant MSA/Globe, when contacted about the study and asked whether Globe planned to study this issue and find an alternative to PFAS for bunker gear, merely responded

⁹³ Graham Peaslee et al., *Environmental Science & Technology Letters* 2020, 7, 8, 594-599 (June 23, 2020).

⁹⁴ Raleigh McElvery, *Protective Gear Could Expose Firefighters to PFAS*, Chemical and Engineering News (July 1, 2020), <https://cen.acs.org/environment/persistent-pollutants/Protective-gear-expose-firefighters-PFAS/98/i26> (last visited May 15, 2023).

⁹⁵ Andrew Wallender, *Firefighters Face New Possible Risk From Toxic PFAS: Their Gear*, Bloomberg Law (June 23, 2020), <https://news.bloomberglaw.com/pfas-project/firefighters-face-new-possible-risk-from-toxic-pfas-their-gear> (last visited May 15, 2023).

⁹⁶ Blair Miller, *Local Firefighters Concerned About Potentially Dangerous Chemicals on Gear*, Boston 25 News (February 26, 2019), <https://www.boston25news.com/news/local-firefighters-facing-concerns-over-potentially-dangerous-chemicals-on-gear/925236612/> (last visited May 15, 2023).

thusly: “[P]rotecting (firefighters) is Globe’s business; every piece of our turnout gear meets or exceeds applicable industry standards.”⁹⁷

242. As noted above, Defendant Lion has also dismissed or minimized the significance of the Notre Dame Turnout Study’s findings, stating: “Your Lion turnout gear continues to be safe and ready for action especially when properly maintained. It is extremely important that firefighters continue to wear and properly care for their gear to stay safe on the job.”⁹⁸

243. The Customer Safety Alert goes on to stress that Lion does not use PFOA or PFOS (two long-chain PFAS chemicals) in its bunker gear.⁹⁹ It does not, however, address that Lion’s bunker gear in fact contain other PFAS chemicals, nor warn firefighters or the public about health harms associated with exposure to these toxic, bio-accumulating chemicals.

244. Defendant Lion’s paid consultant, Dr. Paul Chrostowski, also has taken aim at the Notre Dame Turnout Study and its findings. Attempting to refute a *Fire Rescue* magazine article about the study, Chrostowski repeated Lion’s website statement that “PFOA was never part of the gear itself and frequent independent testing has found only trace amounts of it in any of the gear – not nearly enough to cause concern, and in amounts similar to consumer products.”¹⁰⁰ Chrostowski went on to say, “[t]he fact is that one may find trace amounts of ‘short-chain’ PFAS such as PFBS and PFHxA in firefighting textiles, but the scientific research shows that these materials are far less toxic than even PFOA and at the tiny trace levels the risk are extremely low based on numerous

⁹⁷ Blair Miller, *Local Firefighters Concerned About Potentially Dangerous Chemicals on Gear*, Boston 25 News (February 26, 2019), <https://www.boston25news.com/news/local-firefighters-facing-concerns-over-potentially-dangerous-chemicals-on-gear/925236612/> (last visited May 15, 2023).

⁹⁸ Lion Customer Safety Alert, *PFOA And Turnout Gear*, https://legacy-assets.eenews.net/open_files/assets/2021/02/16/document_gw_08.pdf (last visited May 15, 2023).

⁹⁹ *Id.*

¹⁰⁰ Paul Chrostowski, Firefighter Nation (June 3, 2020), *supra*, FN 75.

credible published scientific research papers.”¹⁰¹ Finally, as mentioned above, Chrostowski falsely stated that the link between PFAS exposure and cancer is “extremely weak.”¹⁰²

245. And yet, Lion has admitted publicly that dermal absorption is a pathway of exposure to cancer-causing chemicals for firefighters. In Lion’s *Not in Our House* cancer awareness fact sheet that currently appears on the company’s website, Lion warns firefighters: “For every 5 degrees increase in temperature, skin becomes up to 400% more absorbent. The hotter you are, the more carcinogens your skin absorbs.”¹⁰³ This statistic is alarming given that the core body temperature of firefighters routinely increases during firefighting activities while wearing bunker gear which contain known carcinogens.¹⁰⁴

246. On September 26, 2022, the International Agency for Research for Cancer (“IARC”), the specialized agency of the World Health Organization, announced that it would be having a Meeting on PFOA and PFOS from November 7–November 14, 2023.

247. In effect, the IARC nominated PFOA and PFOS for review and publishing in the IARC Monographs. The expectation of the meeting is to reach an industry-wide consensus on the strength of evidence available to classify those agents as carcinogenic.

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ *Cancer Awareness Infographic*, Lion Group Inc., <https://www.lionprotects.com/not-in-our-house> (last visited May 15, 2023).

¹⁰⁴ Nancy Espinoza, *Can We Stand the Heat?*, Journal of Emergency Medical Services, (April 30, 2008), <https://www.jems.com/operations/can-we-stand-heat-study-reveal/> (last visited May 16, 2023); Gavin P. Horn, et al., *Thermal Response to Firefighting Activities in Residential Structure Fires: Impact of Job Assignment and Suppression Tactic*, Ergonomics (July 31, 2017), <https://tinyurl.com/4j2mz7f7> (last visited May 15, 2023).

248. Likewise, Defendant Honeywell has stated: “The skin on the neck is very thin and prone to absorbing carcinogenic particulates.”¹⁰⁵

249. Another recent Harvard study examining PFAS levels in fire stations dust found that “dust in turnout gear locker areas and adjoining apparatus bays had significantly higher fluorine concentrations compared to living rooms in fire stations,” as well as fluorine concentrations typically found in in Class B foam and/or textiles as opposed to consumer products.¹⁰⁶

250. Plaintiff deserves more. He was among the first to respond to emergencies faced by his community and never hesitated to help. Whether delivering a baby, responding to a fire, medical emergency, accident, mass shooting, terrorist attack, natural disaster, or teaching kids about fire safety, firefighters always put the community first. When a child is drowning in a pool or a family is caught in a burning house, they do not stop to calculate whether they will benefit by doing the right thing. They are true public servants. They step in and do what is needed when it is needed the most. Their health, safety, and well-being must be of the highest priority.

I. New Research Indicates It Was Technologically and Economically Feasible for Defendants to Design Safer Firefighting Foams and Bunker Gear

251. Defendants have long known that safer, reasonable, alternative designs existed and could be utilized. These designs are and were not only technologically feasible, but also economically. Indeed, given the enormous cost of remediation of the environment and litigation,

¹⁰⁵ Ronnie Wendt, *Innovations in Turnout Gear*, *Industrial Fire World* (March 17, 2021), <https://www.industrialfireworld.com/598931/innovations-in-turnout-gear> (last visited May 15, 2023).

¹⁰⁶ A.S. Young et al., *Per- and Polyfluoroalkyl Substances (PFAS) and Total Fluorine in Fire Station Dust*, *J. Expo. Sci. Environ. Epidemiology* (2021), <https://www.nature.com/articles/s41370-021-00288-7> (last visited May 15, 2023).

not to mention the cost of human lives, these safe, feasible alternatives would have cost significantly less.

252. In the early 2000s, 3M, in conjunction with Solberg Scandinavian AS, developed Re-Healing Foam (“RF”), a high-performance, AFFF-comparable product that contained no fluoroochemicals and resulted in two patents and three commercial products of PFAS-free firefighting foam. RF met the standard of “ICAO [International Civil Aviation Organization] Level B and matched AFFF in performance including a U.S. MIL-Spec product.”¹⁰⁷ In 2007, Solberg bought 3M’s patent rights to RF and continued to market and sell RF. In 2011, Defendant Amerex acquired Solberg and continued to manufacture, market, and sell RF. In 2014, the EPA presented Solberg with the Presidential Green Chemistry Challenge Award for its fluorine-free foams; the award recognizes technologies that prevent pollution and match or improve the performance of existing products.¹⁰⁸ In 2018, Defendant Perimeter Solutions acquired Solberg and continued to manufacture, market, and sell RF.

253. Also, beginning in the early 2000s, BIOEX launched a highly effective, fluorine free Class B F3 foam which has been approved and used by international airports, fire departments, oil and gas companies, the marine industry and pharmaceutical, and chemical companies around the world.¹⁰⁹

¹⁰⁷ *Fluorine Free Firefighting Foams (3F) – Viable Alternatives to Fluorinated Aqueous Film Forming Foams (AFFF)*, IPEN Expert Panel (September 2018), https://ipen.org/sites/default/files/documents/IPEN_F3_Position_Paper_POPRC-14_12September2018d.pdf (last visited May 15, 2023); Schaefer, Ted. H. et al., *New Foam Technology, New Found Benefits*, Solberg, IAFPA Sydney 2005 Conference Proceedings (Oct. 5-7, 2005), <https://www.kappetijn.eu/wp-content/uploads/2019/05/new-foam-technology-new-found-results-conferentie-sydney-2005.pdf> (last visited May 15, 2023).

¹⁰⁸ *Presidential Green Chemistry Challenge: 2014 Designing Greener Chemicals Award*, U.S. Env’t Prot. Agency (October 2014), <https://www.epa.gov/greenchemistry/presidential-green-chemistry-challenge-2014-designing-greener-chemicals-award> (last visited May 15, 2023).

¹⁰⁹ *Fluorine Free Firefighting Foam (FFF) – Firefighting Foam Concentrates*, BIOEX website

254. However, lobbyists and companies invested in maintaining profits on fluorinated Class B foam not only continued to represent that PFAS-containing foam was safe, but also intentionally maligned the fluorine free foams, falsely asserting that these foams were less effective and more expensive.¹¹⁰ As noted by IPEN:

Over the years since the serious introduction on the market of Class B fluorine-free F3 foams suitable for hydrocarbon and polar solvent fires: there have been many attempts by the fluorochemical side of the industry and their lobbyist trade associations to undermine and downplay the operational performance of Class B fluorine-free foams whilst minimizing the environmental issues associated with fluorinated products. This has included publishing in the technical trade literature spurious performance tests carried out by non-independent or certified bodies funded by competitors to F3 producing companies, as well as continually perpetrating unsupported myths. It is these myths in particular that must be controverted for what they are: marketing hype, misrepresentation of test conditions, frank untruths or only partial truths, criticism of a competitor's product, and an exhibition of vested interests.¹¹¹

255. In 2011, the Fire Fighting Foam Coalition, which includes Defendants Tyco, DuPont, Kidde, and Buckeye, misrepresented a U.S. Navy report comparing Solberg's fluorine free RF with Defendant National Foam's 6-Em AFFF and Defendant Buckeye's FC-3MS AFFF, asserting Solberg's RF was less effective. In fact, though Solberg's RF **was not made per military specifications** as it did not include fluorine, the U.S. Navy Report found:

For iso-octane, the non-fluorinated foam had shorter extinguishment times than the two AFFFs and was the only foam to achieve an extinguishment time under 30 seconds.... The non-fluorinated foam had substantially better performance on iso-octane than on any of the other fuels. Conclusions: For the AFFF foams which were intended to work via formation of an aqueous film, fire extinction times were lengthened considerably in cases where film formation was made difficult by the

(last visited December 13, 2021), <https://www.bio-ex.com/en/our-products/compositions/fluorine-free-foam/> (last visited May 15, 2023); Fluorine Free Firefighting Foams (3F) – Viable Alternatives to Fluorinated Aqueous FilmForming Foams (AFFF), IPEN Expert Panel, p. 48 (September 2018), https://ipen.org/sites/default/files/documents/IPEN_F3_Position_Paper_POPRC-14_12September2018d.pdf (last visited May 15, 2023).

¹¹⁰ *Id.* at 20.

¹¹¹ *Id.* at 22.

low surface tension of the fuel. *For the non-filming fluorine-free foam, however, no such performance decrement was observed, and the fire extinction times on the lowest surface tension fuel were lower than for fuels with higher surface tensions, and within the 30 second time limit specified (on gasoline) by MIL-F24385F.*¹¹² (emphasis added)

256. Further, the study found that AFFF foams had a 25% drain time (between 4-6 minutes), whereas the fluorine-free RF's drain time was 12 minutes. This slower drain time leads to greater burn back resistance and greater safety for firefighters.

257. The technology to develop safer, effective, and economical fluorine-free Class B foam is and has been available for, at least, over 20 years. In fact, many firefighting foam manufacturers and distributors companies manufacture, market and/or sell fluorine-free firefighting foams, including Defendants Tyco, Perimeter Solutions, Chemguard, Johnson Controls, and National Foam.

258. EUROFEU, an umbrella organization representing fire protection trade associations and companies including Defendant Tyco, even stated in 2019: "We believe that F3s [fluorine-free foams] are very suitable for a growing number of applications such as municipal firefighting, training, some testing, and as foam agents in first responding fire trucks."¹¹³

259. LAST FIRE, a consortium of international oil companies developing best industry practice in storage tank Fire Hazard Management including Shell Oil, Chevron, BP, Exxon, and Defendant Perimeter Solutions, concluded after conducting 200 tests that: "Fluorine free foams

¹¹² Solberg Foam Technical Bulletin, *Re-Healing Foam Fire Performance*, Technical Bulletin, #1009 (last visited December 13, 2021), <https://www.interfireagencies.com.au/wp-content/uploads/2015/04/TechB-1009-RE-HEALING-Foam-Fire-Performance-2.pdf> (last visited May 15, 2023).

¹¹³ *The Use of PFAS and Fluorine-Free Alternatives in Fire-Fighting Foams*, European Commission DG Environment and European Chemicals Agency (ECHA), Final Report, June 2020, p. 273, https://echa.europa.eu/documents/10162/28801697/pfas_flourinefree_alternatives_fire_fighting_en.pdf/d5b24e2a-d027-0168-cdd8-f723c675fa98 (last visited May 15, 2023).

can provide equivalent performance to C6 foams [AFFF] and provide appropriate performance for hydrocarbon [fires].”¹¹⁴

260. Safe fluorine-free bunker gear was and is also technologically and economically feasible.

261. Defendant Fire-Dex, manufactures, markets and sells an entire line of PFAS-free bunker gear, as well as non-fluorinated fabrics from Safety Components Fabric Technologies, Inc. with a PFAS-free water-repellent.¹¹⁵ “Made with the same fabric as our traditional TECGEN71 outer shell, this Case material is designed to reduce heat stress while offering the same performance levels in TPP, breathability, and overall reduction of composite weight.”¹¹⁶ Further, because of the increased breathability and thermal protection, the PFAS-free gear is the only outer shell that can currently be paired with the lightest and thinnest thermal liners and moisture barriers.¹¹⁷ This, according to Fire-Dex, significantly reduces heat stress and cardiac failure for firefighters while also reducing the risk of cancer and other diseases by eliminating PFAS exposure through bunker gear.

262. Defendants MSA/Globe, Honeywell, Tencate, and Gore have developed, manufactured, marketed and/or sold PFAS-free waterproofing technology, PFAS-free outer shells in bunker gear and/or durable PFAS-free fabrics.¹¹⁸

¹¹⁴ *Id.* at pp. 314-315. Hydrocarbon fires are flammable gas or liquid fires that may involve gas, oil, kerosene, ethanol, propane, acetylene, hydrogen, and methane, to name a few.

¹¹⁵ Fire-Dex Launches Non-Fluorinated PPE Fabrics, Firehouse.com (February 17, 2021), <https://www.firehouse.com/safety-health/ppe/turnout-gear/press-release/21210722/firedexfiredex-launches-nonfluorinated-ppe-fabrics> (last visited May 15, 2023).

¹¹⁶ Alternative PPE, Fire-Dex website, <https://www.firedex.com/catalog/tecgen51-fatigues/#materials> (last visited May 15, 2023).

¹¹⁷ TecGen71 Outer Shell, Fire-Dex website, <https://www.firedex.com/tecgen71/> (last visited May 15, 2023).

¹¹⁸ FreeFAS Durable Water Repellent (DWR) Coating, MSA/Globe website,

263. Defendant Honeywell even admitted that these PFAS-free alternatives are safe, feasible, and economical: “Any minor tradeoffs with PFAS-free fabrics are outweighed by worker safety. And the protection level is unchanged. PFAS-free gear offers the same thermal protection and moves the same way. The color fastness and wear remain the same.”¹¹⁹

264. While the technology to develop fluorine-free bunker gear has been available for years, the NFPA turnout standards-setting technical committee continues to adhere to certain guidelines for bunker gear which require PFAS—knowingly putting firefighters at risk for exposure to PFAS. This committee includes industry consultants, textile and gear manufacturers, and representatives Defendants Lion, Tyco, and Honeywell.¹²⁰

265. The economic and technological feasibility of fluorine-free foams and bunker gear is well-established and based on technology that has been available for years. The alternative designs detailed above are far safer for firefighters and eliminate the serious health risks that result from PFAS exposure.

266. The only barrier to producing safer alternatives to PFAS-containing foams and bunker gear has been Defendants’ opposition. Their continued manufacturing, marketing, selling and/or distributing PFAS-containing foams and bunker gear has exposed firefighters to toxic PFAS

<https://globe.msasafety.com/newoutershells> (last visited May 15, 2023); Wendt, Innovations in Turnout Gear, Industrial Fire World (March 17, 2021), <https://www.industrialfireworld.com/598931/innovations-in-turnout-gear> (last visited May 15, 2023); WL Gore to Release PFAS-free Waterproof Material for Apparel, Chemical Watch (October 4, 2021), <https://chemicalwatch.com/346695/wl-gore-to-release-pfas-free-waterproof-material-for-apparel> (last visited May 15, 2023).

¹¹⁹ Wendt, Innovations in Turnout Gear, Industrial Fire World (March 17, 2021), <https://www.industrialfireworld.com/598931/innovations-in-turnout-gear> (last visited May 15, 2023).

¹²⁰ NFPA 1971/1851 Technical Committee Meeting Minutes (March 31, 2020); NFPA 1971/1851 Technical Committee Meeting Minutes (January 11-12, 2012).

chemicals. These defective designs are and/or have been a substantial factor in causing Plaintiff's injuries.

267. Based on all of the foregoing, Plaintiff brings this action for damages and for other appropriate relief sufficient to compensate him for the significant harm Defendants' PFAS chemicals and PFAS-containing products have caused.

J. Plaintiff Chad Marsh's Diagnosis From PFAS Exposure

268. After years of Defendants suppressing research showing PFAS to be toxic and associated with cancer and other serious illnesses, misrepresenting the safety of PFAS and PFAS containing bunker gear and Class B foam, and attributing the cause of firefighters' cancers and other serious illnesses to factors other than bunker gear and Class B foams (or the PFAS chemicals and materials in these foams and bunker gear), Plaintiff could not know and, in fact, did not know that significant levels of PFAS was likely to or had bio-accumulated in his body or the cause of his cancer.

269. At the time Plaintiff was diagnosed with Prostate cancer in January 2024, he had no knowledge or reason to believe that PFAS or PFAS-containing materials could be the cause of his cancer, nor could he know that firefighters were exposed to the foam at such high levels. In January 2024, Plaintiff was diagnosed with Prostate cancer and suffered ongoing subsequent treatment and/or related effects as a result of this injury. Plaintiff continues to submit to physician's exams and medical testing as precautionary health measures.

270. Plaintiff did not learn of his PFAS exposure until on or around January 2023 when the IAFF alerted the community of the harms of PFAS. Plaintiff found articles relating to the pervasiveness of the cancer related to the PFAS or PFAS-containing materials. Upon initial discovery, Plaintiff discovered the numerous lawsuits and articles related to the PFAS or PFAS-

containing materials and various forms of cancer. When Plaintiff's Union received notice PFAS or PFAS-containing materials caused cancer on or around January 2023, flyers set out to warn individuals and to encourage medical testing. Nothing was posted prior.

271. Based on all of the foregoing, Plaintiff, brings this action for damages and for other appropriate relief sufficient to compensate him for the significant harm Defendants' PFAS chemicals and PFAS-containing products have caused.

EQUITABLE TOLLING OF APPLICABLE STATUE OF LIMITATIONS

272. Plaintiff incorporates by reference all prior paragraphs of this complaint as though fully set forth herein.

A. Fraudulent Concealment

273. Defendants have known or should have known about the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS and PFAS-containing materials since at least the 1960s and as late as the early 1990s when study after study showed not only unacceptable levels of toxicity and bioaccumulation in human blood, but links to increased incidence of liver damage, various cancers and birth defects.

274. Through no fault or lack of diligence, Plaintiff was deceived regarding the safety of bunker gear and Class B foam and could not reasonably discover the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in bunker gear and Class B foam, nor Defendants' deception with respect to the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in bunker gear and Class B foam.

275. Plaintiff did not discover and did not know of any facts that would have caused a reasonable person to suspect that Defendants were concealing the hazardous toxicity, persistence,

and bioaccumulation associated with the use of PFAS or PFAS-containing materials in bunker gear and Class B foam. As alleged herein, the existence of the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in bunker gear and Class B foam was material to Plaintiff at all relevant times. Within the time period of any applicable statutes of limitations, Plaintiff could not have discovered through the exercise of reasonable diligence the existence of the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in bunker gear and Class B foam, nor that Defendants were concealing the fact of the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in bunker gear and Class B foam.

276. Defendants did not fully disclose the seriousness of the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in bunker gear and Class B foam, but instead ignored and/or concealed the defect from Plaintiff and the public, and refused to provide safe alternatives to PFAS or PFAS-containing materials in bunker gear and Class B foam.

277. At all times, Defendants are and were under a continuous duty to disclose to Plaintiff the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS containing materials in bunker gear and Class B foam.

278. Defendants knowingly, actively, and affirmatively concealed the facts alleged herein. Plaintiff reasonably relied on Defendants' knowing, active, and affirmative concealment.

279. For these reasons, any and all applicable statutes of limitations have been tolled as a consequence Defendants' ongoing knowledge, active concealment, and denial of the facts alleged herein.

B. Estoppel

280. Defendants were and are under a continuous duty to disclose to Plaintiff the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS containing materials in Class B foam and bunker gear.

281. Instead, Defendants actively concealed the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS and PFAS-containing materials in Class B foam and bunker gear; and knowingly made misrepresentations about the quality, reliability, characteristics, safety and performance of Class B foam and bunker gear.

282. Plaintiff reasonably relied upon Defendants' knowing and affirmative misrepresentations, and/or active concealment, of these facts.

283. Based on the foregoing, Defendants are estopped from relying on any and all applicable statutes of limitations in defense of this action.

C. Discovery Rule

284. As discussed herein, PFAS is toxic and bioaccumulative, thereby adversely affecting human health.

285. Plaintiff exercised due diligence but did not possess the technical, scientific, or medical knowledge and information sufficient to ascertain the cause of his injuries until after the television commercial aired on or about January 2023, after the IAFF informed the community about the dangers posed by PFAS in their bunker gear and in Class B foam.

286. Defendants, through their affirmative misrepresentations and omissions, actively concealed from Plaintiff the true and significant risks associated with PFAS in their bunker gear and in Class B foam.

287. Although Defendants had knowledge, since at least the 1960s and as late as the early 1990s, that exposure to PFAS chemicals would increase the risk of contracting cancer and the other illnesses, Defendants failed to warn the public, initiate a recall, or refrain from making and selling the products.

288. As a result of Defendants' actions, Plaintiff was unaware, and could not have reasonably known or have learned through reasonable diligence, that Plaintiff had been exposed to the risks identified herein, and that those risks were the result of defects in the products due to Defendants' acts, omissions, and misrepresentations.

289. The causes of action alleged herein did not accrue until Plaintiff knew or reasonably should have known that PFAS in their bunker gear and in Class B foam was toxic, persistent, and bioaccumulative and that their exposures to the PFAS caused their injuries.

290. Plaintiff, however, had no realistic ability to discern or suspect that the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in Class B foam and bunker gear were a substantial cause of his injuries until – at the earliest January 2023 when Plaintiff first learned that PFAS or PFAS-containing materials could cause cancer.

291. Even then, Plaintiff would have had no reason to discover his causes of action, because of Defendants' active and ongoing concealment of the true nature of the hazardous toxicity, persistence, and bioaccumulation associated with the use of PFAS or PFAS-containing materials in Class B foam and bunker gear, and their prior knowledge of it.

292. Accordingly, Defendants are precluded by the Discovery Rule and/or doctrine of fraudulent concealment, and/or the doctrine of estoppel from relying upon any and all applicable statutes of limitations.

FIRST CAUSE OF ACTION**STRICT LIABILITY – DESIGN DEFECT**

293. Plaintiff incorporates by reference all prior paragraphs of this complaint, as though fully set forth herein.

294. Each Defendant, their predecessors-in-interest, and/or their alter egos, and/or entities they have acquired, have engaged in the business of manufacturing, designing, selling, distributing, supplying, testing, inspecting, labeling, promoting, and/or advertising of bunker gear, Class B foam, and/or PFAS chemicals incorporated into such bunker gear and/or Class B foam, and through that conduct have knowingly placed PFAS-containing products into the stream of commerce with full knowledge that they were sold to fire departments, or to companies that sold bunker gear and Class B foam to fire departments for use by firefighters such as Plaintiff, who are and/or were exposed to PFAS through ordinary and foreseeable uses for the purpose of firefighting activities and training.

295. Defendants intended that the bunker gear, Class B foam, and/or PFAS chemicals incorporated into such bunker gear and/or Class B foam that they are and/or were manufacturing, designing, selling, distributing, supplying, testing, inspecting, labeling, promoting, and/or advertising would be used by firefighters, including Plaintiff, without any substantial change in the condition of the products from when it was initially manufactured, sold, distributed, and marketed by Defendants.

296. Defendants' bunker gear and/or Class B foam are and/or were defective and unreasonably dangerous because they contain toxic PFAS chemicals which, as detailed above, are highly mobile, persistent known carcinogens and immune system disruptors that pose a substantial likelihood of harm to firefighters even when used as directed by the manufacturer for its intended

purpose of firefighting activities, including training, extinguishment, ventilation, search-and-rescue, salvage, containment, and overhaul.

297. Bunker gear, Class B foam, and/or PFAS chemicals incorporated into such bunker gear and/or Class B foam designed, manufactured, marketed, tested, inspected, labeled, advertised, promoted, sold and/or distributed by the Defendants are and/or were unreasonably dangerous and defective in design or formulation because, at the time in which the products left the hands of the manufacturer or distributors, the utility and benefit of these products did not outweigh the risks inherent in the design or formulation of the PFAS-containing bunker gear.

298. Firefighters wear their bunker gear on every shift and use Class B foam regularly and in training and firefighting activities. Defendants have known for decades that exposure to PFAS or PFAS-containing materials is toxic to humans and animals, and results in significant – often catastrophic – health effects, including cancer and birth defects. This risk is heightened for people with consistent exposure to these chemicals which have a long half-life and impact the body on a cellular level. The risk of such serious health effects is and/or was not outweighed by the utility and benefit of PFAS or PFAS-containing, particularly in light of the availability of PFAS-free bunker gear and firefighting foam.

299. The bunker gear and/or Class B foam designed, manufactured, marketed, tested, inspected, labeled, advertised, promoted, sold, and/or distributed by the Defendants were dangerous and defective in design or formulation because, when the PFAS-containing products left the hands of the manufacturer or distributors, these products posed significant health risks and were unreasonably dangerous in normal use.

300. Further, knowing of the dangerous and hazardous properties of bunker gear, Class B foam, and/or PFAS chemicals incorporated into such bunker gear and/or Class B foam,

Defendants could have manufactured, marketed, distributed, and/or sold alternative designs or formulations of fluorine-free chemicals, fluorine-free bunker gear.

301. These alternative designs and/or formulations were already practical, similar in cost, technologically feasible and/or available.

302. Indeed, in the 1990s, DuPont had a viable replacement for PFOA that was less toxic, less-bio-accumulative, but chose not to pursue it. In the 2000s, multiple companies developed safer, effective fluorine-free foams. PFAS-free bunker gear is also available and feasible, and would be more widely available if its development, manufacture and sale were not hindered by Defendants' actions and misrepresentations.

303. The use of these alternative designs would have reduced or prevented the substantial likelihood of harm to Plaintiff that was caused by the Defendants' design, manufacture, testing, inspecting, labeling, marketing, advertising, promotion, sale and/or distribution of bunker gear, Class B foam, and/or PFAS chemicals incorporated into such bunker gear and/or Class B foam.

304. Additionally, the bunker gear and/or Class B foam, that were designed, manufactured, marketed, tested, inspected, labeled, advertised, marketed, promoted, sold, and/or distributed by the Defendants contained PFAS or PFAS-containing materials that were so toxic and unreasonably dangerous to human health and the environment, with the toxic chemicals being highly mobile and persistent, that the act of designing, formulating, manufacturing, testing, labeling, marketing, distributing, and/or selling these products was unreasonably dangerous and the foreseeable risks of causing serious health consequences exceeded the benefits associated with the design or formulation of PFAS-containing bunker gear and/or Class B foam.

305. Defendants' design of bunker gear, Class B foam, and/or PFAS chemicals incorporated into such bunker gear and/or Class B foam was unreasonably dangerous and substantial factor in causing Plaintiff's injuries.

306. As a result of Defendants' defective design, Defendants are strictly liable in damages to Plaintiff.

307. Defendants acted with willful or conscious disregard for the rights, health, and safety of Plaintiff, as described herein, thereby entitling Plaintiff to an award of punitive damages.

308. Plaintiff demands judgment against Defendants, jointly and severally, for all actual and compensatory damages suffered, as well as for punitive damages in an amount sufficient to keep such wrongful conduct from being repeated, together with interest, if applicable, and all costs of this action and for such other and further relief as this Honorable Court and/or jury may deem just and proper.

SECOND CAUSE OF ACTION

STRICT LIABILITY – FAILURE TO WARN

309. Plaintiff incorporates by reference all prior paragraphs of this complaint, as though fully set forth herein.

310. Each Defendant, their predecessors-in-interest, and/or their alter egos, and/or entities they have acquired, have engaged in the business of manufacturing, distributing, supplying, testing, labeling, promoting, or advertising of bunker gear, Class B foam, and/or PFAS chemicals incorporated into such bunker gear and/or Class B foam, through that conduct, have knowingly placed PFAS-containing products into the stream of commerce with full knowledge that they were sold to fire departments and/or to companies that sold bunker gear and/or Class B foam to fire departments for use by firefighters, such as Plaintiff.

311. Defendants' bunker gear, Class B foam, and/or PFAS chemicals incorporated into such bunker gear and/or Class B foam were unreasonably dangerous for their anticipated use because of exposure to PFAS poses a significant threat to human health.

312. Defendants knew or should have reasonably known that the manner in which they were designing, manufacturing, testing, inspecting, labeling, marketing, distributing, and/or selling bunker gear, Class B foam, and PFAS chemicals incorporated into such bunker gear and Class B foam was hazardous to human health, and that firefighters, like Plaintiff, would be exposed to PFAS through ordinary and foreseeable uses of bunker gear and/or Class B foam in the course of engaging in firefighting activities and training.

313. Each Defendant failed to provide adequate warnings regarding the dangers posed by foreseeable uses of its bunker gear, Class B foam, and/or PFAS chemicals incorporated into such bunker gear and/or Class B foam, of which each Defendant knew or should have known.

314. At the time of manufacture, distribution, promotion, labeling, and/or sale, Defendants could have provided warnings or instructions regarding the full and complete risks of bunker gear, Class B foam, and/or PFAS chemicals incorporated into such bunker gear and/or Class B foam.

315. Defendants, however, failed to provide adequate warnings that would lead an ordinary reasonable user, such as Plaintiff, to contemplate the danger to human health posed by exposure to PFAS within Defendants' bunker gear, Class B foam, and/or PFAS chemicals incorporated into such bunker gear and/or Class B foam.

316. In fact, Defendants failed to issue any warnings, instructions, recalls and/or advice as to the danger of exposure to the toxic PFAS-containing bunker gear and/or Class B foam, and the potential for such exposure to cause serious physical injury or disease.

317. Defendants also did not instruct Plaintiff on the proper steps he could take to reduce the harmful effects of previous exposure, the need to have periodic medical examinations including the giving of histories which revealed the details of the previous exposure, and the need to have immediate and vigorous medical treatment for all related adverse health effects.

318. Plaintiff did not and could not have known that the use of bunker gear and/or Class B foam in the ordinary course of performing his duties as a firefighter could be hazardous to his health, bioaccumulate in the blood, and cause serious health effects, including cancer. Had Defendants adequately warned Plaintiff, he would have heeded such warnings.

319. The burden on Defendants to guard against this foreseeable harm to Plaintiff was minimal, and merely required that they provide adequate instructions, proper labeling, and sufficient warnings about their PFAS-containing products.

320. Defendants were in the best position to provide adequate instructions, proper labeling, and sufficient warnings about the bunker gear, Class B foam, and/or PFAS chemicals incorporated into such bunker gear and/or Class B foam and to take steps to eliminate, correct, or remedy any exposure or contamination they caused.

321. As a direct and proximate result of Defendants' failure to provide adequate and sufficient warning regarding of their PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials, Plaintiff suffered the injuries and damages described herein for which Defendants are strictly liable.

322. Defendants acted with willful or conscious disregard for the rights, health, and safety of Plaintiff, as described herein, thereby entitling Plaintiff to an award of punitive damages.

323. Plaintiff demands judgment against Defendants, jointly and severally, for all actual and compensatory damages suffered, as well as for punitive damages in an amount sufficient to keep such wrongful conduct from being repeated, together with interest, if applicable, and all costs of this action and for such other and further relief as this Honorable Court and/or jury may deem just and proper.

THIRD CAUSE OF ACTION

NEGLIGENCE – DESIGN DEFECT

324. Plaintiff incorporates by reference all prior paragraphs of this complaint, as though fully set forth herein.

325. Each Defendant, their predecessors-in-interest, and/or their alter egos, and/or entities they have acquired, have engaged in the business of manufacturing, distributing, supplying, testing, labeling, promoting, or advertising of bunker gear, Class B foam, and/or PFAS chemicals incorporated into such bunker gear and/or Class B foam, through that conduct, have knowingly placed PFAS-containing products into the stream of commerce with full knowledge that they were sold to fire departments and/or to companies that sold bunker gear and/or Class B foams to fire departments for use by firefighters, such as Plaintiff.

326. Defendants intended that the bunker gear, Class B foam, and/or PFAS chemicals incorporated into such bunker gear and/or Class B foam that they are and/or were manufacturing, designing, selling, distributing, supplying, testing, labeling, promoting, and/or advertising would be used by firefighters, including Plaintiff, without any substantial change in the condition of the products from when they were initially manufactured, sold, distributed, and/or marketed by Defendants.

327. Defendants also knew or should have known that Plaintiff would be exposed to PFAS through ordinary and foreseeable uses of these products for the purpose of firefighting activities and training.

328. Defendants had a duty to not endanger the health and safety of Plaintiff who was a foreseeable user of the PFAS-containing bunker gear and/or Class B foam that Defendants are and/or were manufacturing, designing, selling, distributing, supplying, testing, labeling, promoting, and/or advertising as firefighter protective safety equipment.

329. Defendants' duty required that they exercise reasonable care in the manufacturing, designing, selling, distributing, supplying, testing, labeling, promoting, and/or advertising of bunker gear and/or Class B foam.

330. Defendants breached their duty of reasonable care by negligently manufacturing, designing, selling, distributing, supplying, testing, inspecting, labeling, promoting, and/or advertising of PFAS-containing bunker gear and/or Class B foam which were defective and unreasonably dangerous. The bunker gear and/or Class B foam contained toxic PFAS chemicals which, as detailed above, are highly mobile, persistent known carcinogens, and immune system disruptors that pose a substantial likelihood of harm to firefighters even when used as directed by the manufacturer for its intended purpose of firefighting activities.

331. PFAS and/or PFAS-containing bunker gear and/or Class B foam designed, manufactured, marketed, tested, advertised, promoted, sold and distributed by the Defendants are and/or were unreasonably dangerous and defective in design or formulation because, at the time in which the products left the hands of the manufacturer or distributors, the utility and benefit of these products did not outweigh the risks inherent in the design or formulation of the PFAS-containing bunker gear and/or Class B foam.

332. Firefighters wear their bunker gear on every shift and use Class B foam regularly in training and firefighting activities. Defendants have known for decades that exposure to PFAS or PFAS-containing materials is toxic to humans and animals, and results in significant – often catastrophic – health effects, including cancer and birth defects. This risk is heightened for people, like Plaintiff, with consistent exposure to these chemicals which have a long half-life and impact the body on a cellular level. The risk of such serious health effects is and/or was not outweighed by the utility and benefit of PFAS or PFAS-containing, particularly in light of the availability of PFAS-free bunker gear and firefighting foam.

333. The bunker gear designed, manufactured, marketed, tested, inspected, labeled, advertised, promoted, sold, and/or distributed by the Defendants were dangerous and defective in design or formulation because, when the PFAS-containing products left the hands of the manufacturer or distributors, these products posed significant health risks and were unreasonably dangerous in normal use.

334. Further, knowing of the dangerous and hazardous properties of PFAS and/or PFAS-containing bunker gear and/or Class B foam, each Defendant could have manufactured, marketed, distributed, and/or sold alternative designs or formulations of fluorine-free bunker gear and/or firefighting foam.

335. These alternative designs for both bunker gear and for firefighting foam were already practical, similar in cost, technologically feasible and/or available.

336. Indeed, a viable replacement for PFOA that was less toxic and less-bio-accumulative was identified in the 1990s. In the 2000s, multiple companies developed safer, effective fluorine-free foams. PFAS-free turnout gear is also available and feasible, and would be

more widely available if its development, manufacture, and sale were not hindered by Defendants' collective and respective actions and misrepresentations.

337. The use of these alternative designs would have reduced or prevented the substantial likelihood of harm to Plaintiff that was caused by the Defendants' design, manufacture, marketing, advertising, promotion, sale and/or distribution of PFAS-containing bunker gear and/or Class B Foam.

338. Additionally, PFAS-containing bunker gear and/or Class B foam that was designed, manufactured, marketed, tested, inspected, labeled, advertised, marketed, promoted, sold, and/or distributed by the Defendants contained PFAS or PFAS-containing materials that were so toxic and unreasonably dangerous to human health and the environment, with the toxic chemicals being highly mobile and persistent, that the act of designing, formulating, manufacturing, marketing, distributing, and/or selling these products was unreasonably dangerous and the foreseeable risks of causing serious health consequences exceeded the benefits associated with the design or formulation of PFAS-containing bunker gear.

339. Each Defendant's breached a duty it owed to the Plaintiff via its respective negligent and/or grossly negligence design of the toxic PFAS chemicals, the PFAS-containing bunker gear, and/or the PFAS-containing Class B foam, and these breaches were a substantial factor in causing Plaintiff's injuries.

340. As a result of Defendants' defective, unreasonably dangerous PFAS-containing bunker gear, and/or PFAS-containing Class B foam, each Defendant is liable for such injuries and damages to Plaintiff.

341. Each Defendant acted with willful or conscious disregard for the rights, health, and safety of Plaintiff, as described herein, thereby entitling Plaintiff to an award of punitive damages.

342. As a direct and proximate result of the Defendants' collective and respective negligence in the design, distribution, and sale of their PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials, Plaintiff has been injured, sustained severe and permanent pain, suffering, disability, impairment, loss of enjoyment of life, loss of care, comfort, economic loss and damages including, but not limited to medical expenses, lost income, and/or other damages.

343. Plaintiff demands judgment against Defendants, jointly and severally, for all actual and compensatory damages suffered, as well as for punitive damages in an amount sufficient to keep such wrongful conduct from being repeated, together with interest, if applicable, and all costs of this action and for such other and further relief as this Honorable Court and/or jury may deem just and proper.

FOURTH CAUSE OF ACTION

NEGLIGENCE – FAILURE TO WARN

344. Plaintiff incorporates by reference all prior paragraphs of this complaint, as though fully set forth herein.

345. Each Defendant, their predecessors-in-interest, and/or their alter egos, and/or entities they have acquired, have engaged in the business of manufacturing, distributing, supplying, testing, labeling, promoting, or advertising of bunker gear and/or Class B foam containing PFAS or PFAS-containing materials and, through that conduct, have knowingly placed PFAS-containing products into the stream of commerce with full knowledge that they were sold to fire departments and/or to companies that sold bunker gear and/or Class B foams to fire departments for use by firefighters, such as Plaintiff.

346. Defendants' bunker gear and/or Class B foam containing PFAS or PFAS-containing materials were unreasonably dangerous for their anticipated use because of exposure to PFAS poses a significant threat to human health.

347. Defendants knew or should have reasonably known that the manner in which they were designing, manufacturing, testing, inspecting, labeling, marketing, distributing, and/or selling bunker gear and/or Class B foam containing PFAS or PFAS-containing materials was hazardous to human health, and that firefighters, like Plaintiff, would be exposed to PFAS through ordinary and foreseeable uses of bunker gear and/or Class B foam containing PFAS or PFAS-containing materials in the course of engaging in firefighting activities and training.

348. Defendants had a duty to earn against such latent dangers resulting from foreseeable uses of its products of which it knew or should have known.

349. At the time of manufacture, distribution, promotion, labeling, and/or sale, Defendants could have provided warnings or instructions regarding the full and complete risks of bunker gear and/or Class B foam containing PFAS or PFAS-containing materials.

350. Defendants, however, breached their duty and failed to provide adequate warnings as to the potential harm that might result from exposure to PFAS or PFAS-containing products that would lead an ordinary reasonable user, such as Plaintiff, to contemplate the danger to human health posed by such products.

351. In fact, Defendants failed to issue any warnings, instructions, recalls and/or advice as to the danger of exposure to the toxic PFAS-containing bunker gear and/or Class B foam, and the potential for such exposure to cause serious physical injury or disease.

352. Defendants also did not instruct Plaintiff on the proper steps he could take to reduce the harmful effects of previous exposure, the need to have periodic medical examinations including

the giving of histories which revealed the details of the previous exposure, and the need to have immediate and vigorous medical treatment for all related adverse health effects.

353. Plaintiff did not and could not have known that the use of bunker gear and/or Class B foam in the ordinary course of performing his duties as a firefighter could be hazardous to his health, cause PFAS to bioaccumulate in the blood, and cause serious health effects, including cancer. Had Defendants adequately warned Plaintiff, he would have heeded such warnings.

354. The burden on Defendants to guard against this foreseeable harm to Plaintiff was minimal, and merely required that they provide adequate instructions, proper labeling, and sufficient warnings about their PFAS-containing products.

355. Defendants were in the best position to provide adequate instructions, proper labeling, and sufficient warnings about the bunker gear and/or Class B foam containing PFAS or PFAS-containing materials, and to take steps to eliminate, correct, or remedy any exposure or contamination they caused.

356. As a direct and proximate result of Defendants' failure to provide adequate and sufficient warnings, Plaintiff suffered the injuries and damages described herein for which Defendants are strictly liable.

357. Each Defendant acted with willful or conscious disregard for the rights, health, and safety of Plaintiff, as described herein, thereby entitling Plaintiff to an award of punitive damages.

358. As a direct and proximate result of the Defendants' collective and respective breach of their duties to provide Plaintiff with adequate and sufficient warnings regarding of their PFAS chemicals, bunker gear, and/or Class B foams containing PFAS or PFAS-containing materials, Plaintiff has been injured, sustained severe and permanent pain, suffering, disability, impairment,

loss of enjoyment of life, loss of care, comfort, economic loss and damages including, but not limited to medical expenses, lost income, and/or other damages.

359. Plaintiff demands judgment against Defendants, jointly and severally, for all actual and compensatory damages suffered, as well as for punitive damages in an amount sufficient to keep such wrongful conduct from being repeated, together with interest, if applicable, and all costs of this action and for such other and further relief as this Honorable Court and/or jury may deem just and proper.

FIFTH CAUSE OF ACTION

NEGLIGENCE

360. Plaintiff incorporates by reference all prior paragraphs of this complaint, as though fully set forth herein.

361. Each Defendant, their predecessors-in-interest, and/or their alter egos, and/or entities they have acquired, have engaged in the business of manufacturing, distributing, supplying, testing, labeling, packaging, testing, marketing, distributing promoting, or advertising PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials, and/or PFAS materials incorporated into such bunker gear or Class B foams. In so doing, Defendants acted with the actual or constructive knowledge that PFAS-containing products were being sold to fire departments and/or to companies that sold bunker gear and/or Class B foams to fire departments for use by firefighters, such as Plaintiff.

362. Defendants intended that the PFAS chemicals, PFAS-containing bunker gear, and/or PFAS-containing Class B foams that they are and/or were manufacturing, distributing, supplying, testing, labeling, packaging, testing, marketing, distributing promoting, or advertising

would be used by firefighters, including Plaintiff, without any substantial change in the condition of the products from when they were initially manufactured, sold, distributed, and/or marketed by Defendants.

363. Defendants also knew or should have known that Plaintiff would be exposed to PFAS through ordinary and foreseeable uses of these products for the purpose of firefighting activities and training.

364. Each Defendant had a duty to individuals, including the Plaintiff, to exercise reasonable ordinary, and appropriate care in the manufacturing, design, labeling, packaging, testing, instruction, warning, selling, marketing, distribution, and training related to their PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials.

365. Each Defendant had a duty to not endanger the health and safety of Plaintiff, who was a foreseeable user of the PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials that Defendants are and/or were manufacturing, design, labeling, packaging, testing, instruction, warning, selling, marketing, distribution, and training.

366. Each Defendant's duty required that it exercise reasonable care in the manufacturing, designing, selling, distributing, supplying, testing, labeling, promoting, and/or advertising of PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials.

367. Each Defendant breached the aforementioned duties of care owed to Plaintiff, and was negligent, grossly negligent, reckless, and willful as described herein in the manufacturing, design, labeling, packaging, testing, instruction, warning, selling, marketing, distribution, and

training related to its PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials in one or more of the following respects:

- a. Failing to design its PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials so as to avoid an unreasonable risk of harm to individuals, including the Plaintiff;
- b. Failing to use reasonable care in the testing of its PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials so as to avoid an unreasonable risk of harm to individuals, including the Plaintiff;
- c. Failing to use appropriate care in inspecting its PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials so as to avoid an unreasonable risk of harm to individuals, including the Plaintiff;
- d. Failing to use appropriate care in instructing and/or warning the public as set forth herein of risks associated with its PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials, so as to avoid unreasonable risk of harm to individuals, including the Plaintiff;
- e. Failing to use reasonable care in marketing, promoting, and advertising its PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials, so as to avoid unreasonable risk of harm to individuals, including the Plaintiff;
- f. Otherwise negligently or carelessly designing, manufacturing, marketing, distributing, warning with respect to PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials; and
- g. In selling and or distributing PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials, each of which was inherently dangerous to the public; and
- h. In such other particulars as the evidence may show.

368. As a direct and proximate result of the Defendants' collective and respective negligent breaches of the duties owed to the Plaintiff, Plaintiff has been injured, sustained severe and permanent pain, suffering, disability, impairment, loss of enjoyment of life, loss of care,

comfort, economic loss and damages including, but not limited to medical expenses, lost income, and/or other damages.

369. Defendants acted with willful or conscious disregard for the rights, health, and safety of Plaintiff, as described herein, thereby entitling Plaintiff to an award of punitive damages.

370. Plaintiff demands judgment against Defendants, jointly and severally, for all actual and compensatory damages suffered, as well as for punitive damages in an amount sufficient to keep such wrongful conduct from being repeated, together with interest, if applicable, and all costs of this action and for such other and further relief as this Honorable Court and/or jury may deem just and proper.

SIXTH CAUSE OF ACTION

FRAUDULENT CONCEALMENT

371. Plaintiff incorporates by reference all prior paragraphs of this complaint, as though fully set forth herein.

372. Each Defendant, their predecessors-in-interest, and/or their alter egos, and/or entities they have acquired, have engaged in the business of manufacturing, distributing, supplying, testing, labeling, promoting, or advertising of PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials, and, through that conduct, have knowingly placed PFAS-containing products into the stream of commerce with full knowledge that they were sold to fire departments and/or to companies that sold bunker gear and/or Class B foams to fire departments for use by firefighters, such as Plaintiff.

373. Throughout the relevant time period, each Defendant knew that it respective PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams

containing PFAS or PFAS-containing materials, was defective and unreasonably unsafe for their intended purpose.

374. Each Defendant fraudulently concealed from and/or failed to disclose to or warn Plaintiff, and the public that its respective PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials was defective, unsafe, and unfit for the purposes intended, and that they were not of merchantable quality.

375. Each Defendant was under a duty to the Plaintiff and the public to disclose and warn of the defective and harmful nature of its respective PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials because:

- a. Defendants were in a superior position to know the true quality, safety, and efficacy of their its respective PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials;
- b. Defendants knowingly made false claims about the safety and quality of the their its respective PFAS chemicals, bunker gear containing PFAS or PFAS-containing materials, and/or Class B foams containing PFAS or PFAS-containing materials in documents and marketing materials; and
- c. Defendants fraudulently and affirmatively concealed the defective nature of the Defendants' products from the Plaintiff.

376. The facts concealed and/or not disclosed by Defendants to the Plaintiff were material facts that a reasonable person would have considered to be important in deciding whether or not to purchase and/or use the Defendants' products.

377. Defendants intentionally concealed and/or failed to disclose the true defective nature of the products so that the Plaintiff would use the Defendants' products, the Plaintiff

justifiably acted or relied upon, to Plaintiff's detriment, the concealed and/or non-disclosed facts as evidenced by Plaintiff's use of the Defendants' products.

378. Defendants, by concealment or other action, intentionally prevented the Plaintiff from acquiring material information regarding the lack of safety and effectiveness of the each of their products. Defendants had stated the non-existence of such material information regarding each of their respective' products' lack of safety and effectiveness and dangers and defects, and as though each Defendant had affirmatively stated the non-existence of such matters, such that the Plaintiff was thus prevented from discovering the truth. Each Defendant therefore has liability for fraudulent concealment under all applicable laws, including, *inter alia*, Restatement (Second) of Torts §550 (1977).

379. As a direct and proximate result of the collective and respective conduct of the Defendants, Plaintiff was exposed to hazardous and toxic chemicals which proximately caused Plaintiff's injury, and all accompanying pain, suffering, mental anguish, disability, impairment, loss of enjoyment of life, loss of care, comfort, economic loss and damages including but not limited to medical expenses, lost income, and/or other damages.

380. Each Defendant acted with willful or conscious disregard for the rights, health, and safety of Plaintiff, as described herein, thereby entitling Plaintiff to an award of punitive damages.

381. Plaintiff demands judgment against Defendants, jointly and severally, for all actual and compensatory damages suffered, as well as for punitive damages in an amount sufficient to keep such wrongful conduct from being repeated, together with interest, if applicable, and all costs of this action and for such other and further relief as this Honorable Court and/or jury may deem just and proper.

REQUEST FOR PUNITIVE DAMAGES

382. Plaintiff adopts and re-alleges each prior paragraph, where relevant, as if set forth fully herein.

383. The actions and inactions of each Defendant was of such a character as to constitute a pattern or practice of willful, wanton, and reckless misconduct causing substantial harm and resulting in damages to Plaintiff.

384. More specifically, each Defendant acted with a conscious and flagrant disregard for the rights and safety of Plaintiff, and/or deliberately engaged in willful, wanton, and reckless disregard for the life and safety of Plaintiff.

385. By reason of the foregoing, each Defendant is liable to Plaintiff for punitive and exemplary damages under governing Kentucky law.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff requests a trial by jury on all counts so triable, and Judgment:

- (1) Awarding the Plaintiff's prospective, compensatory, and other appropriate damages in amounts to be determined by the evidence at trial and allowed by law;
- (2) Compensatory damages for future damages, including but not limited to Plaintiff's pain and suffering and for severe permanent personal injuries sustained by the Fire fighter Plaintiff, including for future health care costs, medical monitoring, and/or economic loss;
- (3) Economic damages including but not limited to medical expenses, out of pocket expenses, lost earnings, and other economic damages in an amount to be determined at trial;
- (4) Pre-judgment and post-judgment interest, at the legal rate, on all amounts claimed;
- (5) Attorneys' fees and costs as permitted by law;
- (6) For equitable and injunctive relief, as necessary, to ensure that Defendants refrain from continuing to harm others; and
- (7) Any such further relief as this Court deems just and proper.

DEMAND FOR JURY TRIAL

Plaintiff hereby demands a jury trial for each cause of action to which he is entitled by law.

Respectfully submitted,

By: /s/Laura S. Fitzpatrick

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